Bird Notes

VOL. IV.

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VOLUME IV.

EDITED BY
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[During March, April, & May, by H. GOODCHILD, M.B.O.U.]

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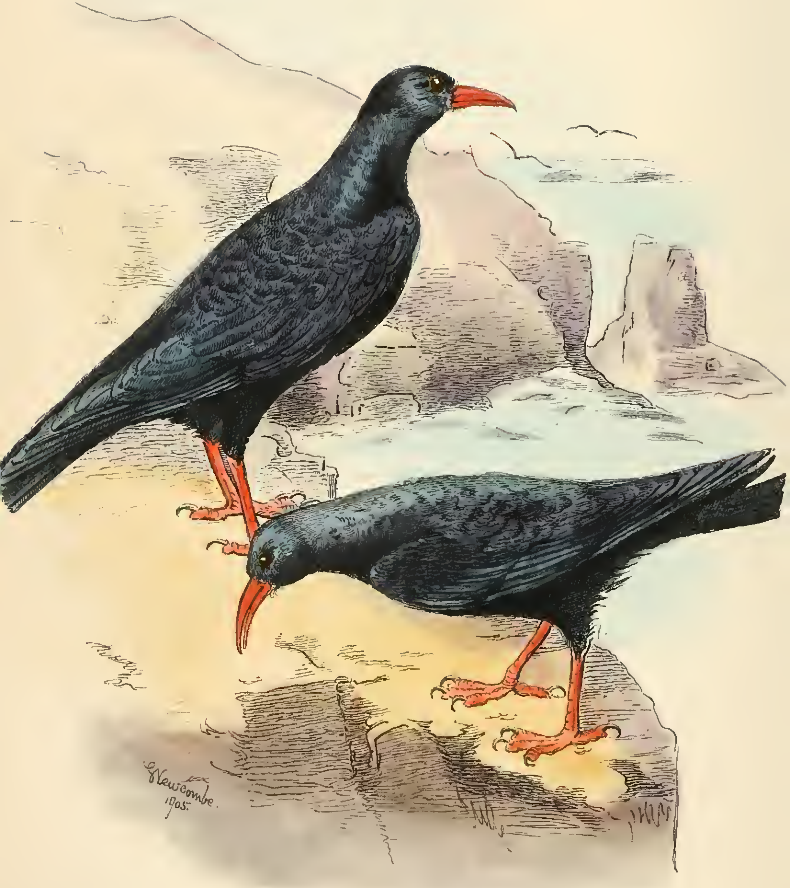

G Newcombe.
1905.

"CORNISH CHOUGH"
Pyrrhocorax Graculus.
(male and female)

The Red-billed Chough.

Pyrrhocorax graculus.

By C. Castle-Sloane, F.Z.S., M.R.Z.S.I., F.R.S.P.B.

THE entire plumage of this bird is a shining black with a dull blue gloss over it, the legs and beak a lovely coral red; total length about 15 inches, wing 10¾ inches, tail 5½ inches.

The sexes are alike in colouring, the female being slightly the smaller of the two. The young birds attain their full plumage at the end of the second year: before this their beaks are of a dull yellow colour.

It builds in most inaccessible places, seeking out the steepest parts of the cliffs, and the nest is often at the end of a cleft with several turnings, and is composed of sticks, roots, and dry grass, lined with wool and grass. The eggs are four or five in number, of a yellowish white spotted with ash grey, purple, or light brown. Size about 1¼ ins. by 1 ins.

The Chough feeds on insects and grain of various sorts, berries, and some kind of small shell-fish which it picks up on the shore.

That it is getting scarce is sadly true: this fact has been observed in the West of Ireland, the South of England, and Scotland. There are many reasons given for its diminishing numbers:

"Some say it is the Jackdaws,
And others they say "Nay,
It's just the man who's got a gun
And likes to blaze away."

I am glad to see these birds are included in the Wild Birds Protection Act 1880. This bird appears in the Schedule which applies to every County in England, Scotland, and Ireland. Any owner, occupier, or other person taking, killing etc. a Chough during the close season (generally from 1st March to

31st July, but in some Counties from 1st February to 31st August in each year: a further period may be obtained through the Act of 1896), or possessing or selling a Chough after the 15th March is liable to a penalty of £1 for each bird.

I was fortunate enough to be presented with a pair of these delightful birds when I was staying in Achill, and they are now housed in one of the compartments of my new aviary. Their flight is about 12 ft. by 16 ft., and in it are trees and a fountain; the flagged floor is thickly strewn with sea sand, and round the fountain is a loose rockery which they love to dig over. Besides this flight they have a good-sized house, and though it must have been a sad change to come from their lovely wild home, they seem very contented and thrive well.

They are a never-ending source of amusement to all who visit my aviaries. How inquisitive they are! Peering into every corner, digging up the cement between the stones, poking over the mould with their long beaks, and, when fed, hiding the pieces of meat, covering them safely up with small stones and leaves. What an excitement they get into before the meal, cawing, hurrying hither and thither! And when you enter their compartment, without the slightest warning down one will jump on to your shoulder, and should the other alight on the same shoulder then begins a battle royal, until one will fly away leaving the other victorious. How they love to pull the buckles and bright buttons which adorn the ladies' dresses! How the ladies admire them! How they love to fondle them! Once I heard a lady sing to these musically-inclined birds — they became as if mesmerised, and stood with one leg tucked up and their beady eyes gradually closing, and there they remained until the singing ceased, even then it took a little time for them to come to. Then the way they will look at you when you give them their food! They will put their head on one side, and look up with their shining eyes as much as to say, "We cannot eat this without a mealworm or two." One day they got out of their compartment, and followed me down the passage right into the greenhouse at the end of the aviary. I saw them in time, so turned back, and they followed—evidently they had had no mealworms that morning, and would not leave me until I had given them some.

I was staying in the West of Ireland when these birds first won my heart. The two I refer to were taken from the nest very young, and so petted and companionable had they become, that, stranger to them though I was, they used to swoop into my bedroom window and alight on my pillow with much cawing, and scolding, too, if I dared ever so gently to remove them. I am rather afraid to let the two I am happy enough to possess fly loose, like my friends in Mayo; and the charm of their perfect tameness and their love for human companionship cannot be seen to full advantage; but there are so many young puppies, dogs and cats about that my heart fails me to open the aviary doors, and let them range at their own sweet will.

I do not propose to give a description of the different sorts of Choughs, but only to discuss the merits of the so-called Cornish Chough as a delightful pet.

My readers may remember that the immortal Will mentions these birds:

"The russet-pated Choughs many in sort
Rising and cawing at the gun's report
Severing themselves and madly sweep the skies.

I feed my Choughs on raw meat, hard-boiled eggs, grain of all kinds, bread, and currant-cake out of which they love to pick the currants. In the aviary with them are Weavers, and when I fill the hopper for these little ones, no sooner is my back turned than one of my black beauties will jump on the hopper and begin to pick out the seed, evidently he does not think it comes out quick enough, so will lift the lid with his beak, and simply scoop it out until none is left.

A Chough will make you happy, if only to see his black, waddling, dancing body and his wicked mischievous eyes.

The Bearded Tit.

By the Rev. C. D. Farrar.

The story tells us that Saul, seeking his father's asses, found a kingdom; so I, while rushing after a White Jackdaw, stumbled upon my Bearded Tits. It happened "thusly," as poor Artemus Ward was wont to say: I was in London for a few days, and almost come to the end of my tether. It was Friday morning and I had to be home that evening. I happened to buy "The Feathered World" at Charing Cross, and glancing casually over the advertisements I saw a pair of White Jackdaws offered somewhere in the West Central district. I hailed a hansom and away I drove to the address indicated. The person who opened the door was clearly a 'furriner,' and she informed me in broken English that there was only one Jackdaw — not a pair — but that she could get me a pair from Germany. Dissembling my wrath as well as I could, I asked if I might see the one and only bird. I was taken downstairs to the basement (inwardly trembling as I thought of Coram Street murders), and there I saw a a very dirty and disreputable-looking bird. He reminded me strongly of the Jackdaw of Rheims after the pronouncement of the terrible curse. I said as many complimentary things as I could about him, but regretted my inability to buy a 'lone lorn crittur.'

A noise in one corner of the room attracted my attention, and, peering in the direction of the sound, I saw four small birds in a cage. I was obliged to ask what they were, as the darkness was Stygian, and I was told they were Bearded Tits 'from Jermany.' Barring the fact that they had lost their caudal appendages, they looked the picture of health, and were manifestly two cocks and two hens. Knowing that Bearded Tits are none so easy to acclimatise, as we say up here, I determined to buy one pair. I did not, you may be sure, select the second best; and having paid the modest price demanded, I popped them into a travelling cage, and was just about to depart, when the lady enquired anxiously if I knew how to feed them. I modestly replied that I had a little experience of softbills. Would I like some of the food she gives them? This also came from her 'broder-in-law in Jermany.' It looked to me so like linseed-meal that I declined to invest in any, though in justice I must say that the Tits looked well on it. I fancied, however, with the conceit natural to the beast, that my own was better. The lady smiled a pitying smile as much as to imply that the Tits and myself would be soon parted. For once, at any rate, she proved herself a false prophetess, as they are still very much alive!

When I got them home I let them loose in a fair sized aviary in company with other Britishers, and it was very pretty to see how they explored every nook and corner of their new retreat. I could fancy them saying, as I listened to their happy chatter, 'Well, this is really something like!'

At first, like the lower orders, they were clearly suspicious of every unknown object. The best rule in such a case is to act naturally, with more quietness than usual, and give them time to forget their suspicions. I did so, and they now creep about my person as if I were of no more interest than Alexander was to Diogenes. When I throw down some maggots they come skipping along from bough to bough. 'To the discreet belong the spoils,' is written in every timorous step and stealthy movement.

They are 'cocky' little beggars, and as full of self-importance as the minister of the two Cumbrays, two miserable islands in the mouth of the Clyde, who offered up this prayer: 'O Lord, bless and be gracious to the Greater and Lesser Cumbrays, and in thy mercy do not forget the adjacent islands of Great Britain and Ireland.' The Tits seem to say the same to me: 'Look after us, and do not forget the rest.'

They are a most devoted little couple, never apart for more than a few moments and then never happy until they are together again. If one were to die I do not think the other would be long behind. I never see them making love: it is always there. It reminds me of what a dear old man used to say to me of his love making: 'I dinna maike it, it comed spontaneous loike.'

I hope someday to be able to record the successful nesting of the devoted little couple, but then Hope is a hen that lays more eggs than she can always hatch out! I console myself with the thought that there is plenty of time yet, as the Parish priest once said to his Bishop who had written to him for neglecting his spiritual flock. The letter ran somewhat as follows: 'My Lord Bishop,—I have received and beg respectfully to acknowledge your Lordship's letter. I believe that your Lordship can hardly be aware of the condition of the roads at this time of the year. I am satisfied that if your Lordship saw them you would think with me that it is impossible at present for our Great Enemy to reach my Parish. As soon as the weather mends, and the roads give any signs of becoming passable, I assure your Lordship that I will take care to be beforehand with him.'

I find that my Bearded Tits, while making my soft mixture their staple diet, do not despise canary and millet seed. They are terribly wasteful where seed is concerned, as they stand in the middle of a full pot and scatter it right and left until they find a bit to suit their dainty palate. I need hardly say that they require a regular supply of insect food, though this need not be given in any alarming quantities. When seeking food on the ground they have the same curious habit of scratching, as the Combassou and the Whydah.

For those who are not familiar with the appearance of the Bearded Reedling I append the following brief description: The length of the bird is 6½ in., of which the tail exceeds 3 ins.; the bill is rather long, thin, slightly curved at the point and of an orange colour; the eyes are 'gravel'; the nape of the neck, back, rump, and tail are what we used to call, in Mice, rich sable; the outer feathers of the tail being tipped with white; over and below each eye, and running to a point at the sides of the neck, is a black marking almost in the form of an acute triangle —hence the name 'Bearded Tit'; the throat and lower part of the neck are silvery white; the breast is pale salmon white, sides and thighs pale yellow, the vent black; the quill feathers of the wing are blackish brown edged with white, the lesser coverts are of the same colour, the greater coverts chestnut orange with pale margins; legs and feet lead colour.

The hen has no cheek markings, the vent is the same colour as the abdomen, and the body colour is altogether paler. Here is the advantage of buying Bearded Tits: you can always be sure of picking out a cock and a hen.

The Bearded Tit is even a better hand than an old cock Blackbird in finding cover—and keeping it. No matter how you try to dodge him, he will always have something between you and his person. Unless you have tried personally to catch him in the aviary, you have never realized how much good cover there is in an elder bush or even a few bare pea sticks.

I was reading a book on Birds the other day, and, anent Bearded Tits, I came across the following cheering sentence: 'These birds will not breed in confinement; in fact they can only be kept alive in health by exercising great care, and giving a frequent change of diet.'—Well, *nous verrons!* as the French say. At all events, I can keep them alive!

A Pekin and her Admirers.

By S. M. Townsend.

Some time ago I had a Persian Bulbul, who shared a cage with a hen Pekin Robin, for whom he showed great affection. Unfortunately for him it was not returned, and all his attentions were treated with the utmost indifference by the Pekin. They used to be a most amusing couple to watch if you were sitting quietly in the room; the Bulbul would try to sit close to the Pekin, who would edge away as he sidled up to her, and at last fly away in disgust. It was quite another matter, though, at night, when she wanted to be warm; then she would not only allow him to come up close, but even to spread his wing over her. I used to find them like this when I took a lamp into the birdroom at night—which I always do during the long nights—and very comic they looked. It was one of the few occasions on which I could agree with Dr. Watts, that "Birds in their little nests agree."

In the daytime the Bulbul used to do all in his power to attract the Pekin's admiration, with posturing and singing; at times his attitudes were most extraordinary. He used to lower his head and tail, stand out every feather on his body so that it looked a round fluffy ball, quite three times its natural size, and flap his wings with a peculiar circular motion, singing all the time with throat swelled out. The song was very pretty, being soft and melodious, and resembling bubbling water. He was a very tame and affectionate bird, though I am afraid his affection proceeded a good deal from cupboard love: he was, in fact, a terrible pig, and used to fly on to the bars and beat his wings the moment he saw me go to the mealworms; he used to beg for them so prettily, that I am afraid he got too many, and this hastened his end.

I daresay the majority of our readers know the Persian Bulbul, but the following description may be a guide to some. The head is jet black, with the cheeks white, the back of the neck brown, the upper part of the body and wings a duller brown, the tail brown at the base, changing to black and tipped with white, the vent and under tail coverts saffron yellow, the beak and legs black. A similar species occurs in India, but is much smaller.

The next cage companion of the Pekin was a Black Tanager, who also fell a victim to her charms. Evidently she is very fascinating to the bird eye, and perhaps to the human eye also, as she once took second prize at the Royal Aquarium. The Tanager, however, made no more impression than the Bulbul, though he would sometimes present her with a choice morsel in the shape of an insect, or a large piece of paper, which he used to tear off the piece in the bottom of the cage, evidently with the intention of nesting. He used to pursue the Pekin with these pieces of paper and insist on her taking them, which she used to do at last for the sake of peace, but only to drop them at once. I had to part them at last, as the Pekin got so weary of his attentions that she used to lose her temper with him, and I thought that if he lost his once with her there might be no more Pekin. She now resides with an English Robin, whose indifference is equal to her own.

Notes on the Nesting of the Indian Dabchick.

By Frank Finn, B.A., F.Z.S., M.B.O.U.

In 1902 I contributed to the *Zoologist* some notes on the nesting of the Indian Dabchick (*Podicipes capensis*) on the tank or pond in the Indian Museum grounds. Those notes covered a period from October 1900, to March 1901; the present paper contains notes for several months of 1902, during which I was again in a position to take pretty continuous notes.

The Indian Dabchick very closely resembles our familiar bird at home, differing in having the secondaries white; but this colour is not noticeable when the wing is completely closed. The pair under observation were altogether free and independent, but very tame, although never fed; the size of their home was about sixty yards by eighty, and they seldom left their pond. The young, which cannot stand at first and care little for swimming either at this time, are most beautiful little objects, with streaky upper surface and white bellies, a red patch on the crown, and pink bills. They are carried much by the parents, resting on the back underneath the wings, with only their heads out. The last young bird of the season was allowed to remain by the parents.

The European Dabchick undergoes a seasonal change in plumage, but this was not the case with the individuals here dealt with, which always retained their dark summer plumage with the chestnut neck. They bred, or tried to nest, at almost any time of year. The "shrimps" on which they largely fed were a small species of freshwater prawns. The pond was not fenced, and the grounds full of prowling vermin, but yet they nested only a few yards out.

May 21st, 1902. Young Dabchick, which was now nearly in full plumage, gone; one old bird near the nest, which was made in *kalmi* or water-convolvulus, and contained one egg.

May 22nd. Both old birds on nest in morning; one only in afternoon.

May 24th. One old bird on nest in evening, though a native was fishing not more than three yards off. But when I came the bird got up and pulled more weeds over the eggs and got off the nest.

May 25th. Young bird again present and in fear of old one, from which it is now hard to distinguish, being merely duller.

June 5th. Young one still present; in the evening one old bird was sitting, and the two others not far off,—the young now indistinguishable from the adults.

June 6th. Old bird in the nest, the morning being warm, standing up and quivering its half-closed wings.

June 7th. Bird on nest in evening, about sunset, but not on the eggs, which were uncovered; there were four of them, looking quite white. This is the first time I have seen them uncovered since May 21st.

June 10th. At mid-day—the weather being very hot—the bird was off the eggs, which were exposed; they now look rather creamy.

June 11th. Bird got off in morning, leaving two eggs visible in nest. Later I distinctly saw one young one. Two other birds were on the pond, one no doubt being the full grown young.

June 12*th*. Bird got off in the morning when I waved an open umbrella, leaving two buff eggs and showing two young. Three full-grown birds still on pond.

June 13*th*. Two young seen again ; saw one dive about two feet. Old bird carefully covered nest when first put off in morning ; afterwards it did not, and I saw what looked like eggshells.

June 14*th*. Both old ones off the nest in the morning, the larger carrying the young. One chick tried to climb on to the other parent, but was not encouraged, and mounted the larger one. I think the latter was the hen.

June 15*th*. There are certainly three chicks if not more ; all can get on parent's back. A friend (Mr. J. Orr) was with me when I looked on one occasion, and the bird carrying the young swam out and away, which it does not when I am alone.

June 17*th*. There are certainly three young ; about noon I saw the larger parent carrying them out a good many yards away from the nest ; then it came back near the nest, and so did the smaller parent, which fed one young bird in the water. The chick then tried to climb on this parent, but was not encouraged ; however, it succeeded at last. The two parents met and chattered, and one bird relinquished its two chicks and left them with the other ; when I left this was carrying two, with the third chick near it.

At night I saw the larger parent with the young on the nest, to which more material had lately been added ; I saw it put more on and make the nest up.

June 18*th*. Old bird on nest brooding two chicks, one lying outside ; the other parent—the smaller one—approached with a shrimp and went round the nest to give it to the chick outside. The little one had some trouble with the shrimp and the parent took and worried this, then let the chick take and eat it.

June 19th. Young outside nest in water.

June 20th. Young well out in the pond, quite in the centre, two on the old one's back, and a third—largest—following.

[For the last few days I have not seen the full grown young bird of last year].

June 22nd. Saw the old bird making up the nest in the morning. Later in the day—it being very hot—I saw the young birds lying on the nest, both parents being many yards off; but one reached the nest almost as soon as I did. The chicks can stand up now.

June 23rd. In the morning I saw all the young on the side of the pond opposite to the nest; neither parent was visible, but one soon rose from under the water close by, and I then saw the other not far off.

June 24th. In the morning one old bird was adding to the nest, none of the young being near, nor the other present. Later in the day saw all three chicks many yards from the nest, swimming together. At first one old bird was diving near and giving them the shrimps it caught, then the other came from a distance and fed them. I saw one chick given a small fish. (A few days before I saw a fish offered to all three young, but it proved too big for them, so the old one ate it itself).

This afternoon I noticed, when the first old bird was diving, that the chicks did not know more than I did where it would come up. I saw them face right round to swim to it on one occasion. All the young dived, but not farther than two or three yards; they are still wilder than the old birds.

June 27th. This day about noon I saw the biggest chick washing itself like an old bird on the side of the tank opposite the nest ; it dived when it saw me, but only for a yard or two. It appeared to be in the charge of one parent, while the other two were with the other, also away from the nest. (Later on I could confirm this).

June 29th. Saw the three young by themselves at the opposite side of the tank from the nest, apparently hunting. For the first time they hardly noticed me. One parent soon turned up near, and I saw it several times drive off the smallest chick, which bothered it while it was pluming. None of the birds feared a passing kite much, but all got ready to dive. I found the other parent—I think the smaller one—at the other end of the tank, apparently not hunting. It approached me when I dabbled in the water.

June 30th. Saw the largest chick putting new material on the nest, which was very sodden. It did this of its own accord, before the parent did so. The parents have regularly added to the nest daily, judging from the state thereof and the times I have seen them add to it. The largest chick can now dive several yards ; it is often alone. The smallest still gets pecked.

July 7th. All young ones for some days have been going about the tank, sometimes alone and sometimes with parents (not all with one). They have no fear of me now. Their bills are still pink and they show no feathers. To-day the Coot got a fish, which one of the young Dabchicks wanted. But the Coot did not give it up, although it did not resent the little Dabchick's near approach. [This Coot had been there with the Dabchicks a long time, but was not like them a voluntary visitor.]

July 16th. Saw the most forward of the remaining young birds—for the last few days I have only seen two young and one parent—try to fly for the first time; its quills are nearly grown. The parent was not about at the time.

July 17*th*. Saw the remaining old bird (the smaller one apparently) chase off the older young bird, and twice feed the younger one.

July 18*th*. Only one chick, the smaller one, to be seen, and this in close company with the solitary old birds. This chick's wing-quills are barely sprouting as yet.

July 19*th*. State of affairs the same as yesterday.

July 23*rd*. One young bird and one old bird only visible still; former still being fed by latter.

July 28*th*. Still one chick and one parent; quills of former now full grown; parent seen to drive it. This parent is still in quite full plumage.

July 29*th*. Both old birds now on pond; when first seen only one was near the young. Later, both in quite full plumage, were together, building another nest in about the same place as the last one. Young bird now trying to fly.

August 4*th*. Both parents and the young one, now feathered all over, on pond. Yesterday, as one old bird was manipulating a fish, the other kept on driving off the young which persisted in wanting it.

August 10*th*. Saw young bird with fair-sized fish, which it had evidently caught itself. A little later it was being attacked by a young water snake (*Tropidonotus piscator*), which it evidently feared.

August 13*th*. Old birds have built a new nest, nearer shore, among bullrushes. Saw it for first time to-day.

The young bird is still present, but keeps some distance off. When I have seen it the last few days it has been near one old bird oftener than the old pair were near each other.

August 16th. Saw old Dabchick on nest this morning; young one some way off. Some time after saw both old birds off, but near nest, which contained one egg, which was uncovered. When I was alone the birds did nothing, but when I came later with a friend (Mr. I. Burkill) the bird on the nest covered the egg and left.

August 18th. Dabchick now sitting.

August 24th. Four eggs in nest, now buff-coloured.

August 25th. Nest swamped and deserted; there has been much rain last night and for a day or two before. Nevertheless the bird was not raising the nest yesterday. Young bird still present.

August 26th. All three Dabchicks still present. When the two old birds were together, the bigger one began to carry some weed.

August 30th. Yesterday saw both Dabchicks carrying weed to a new nest in the rushes, nearer the shore than before.

September 20th. The Dabchicks, after making several nests, have at last laid in one made in the clump of bullrushes, but at the side of this opposite to the last nest. One egg visible.

September 22nd. Bird sitting to-day; young one still present.

September 23rd. Saw hen on nest; she got up, covered and then uncovered the eggs, and lay down on them again, puffing out her breast-feathers to cover them. The smaller bird, which is certainly the cock, bringing material.

September 25th. After a wet night found three eggs exposed and deserted; the old birds were not to be seen, though the young one was there. The nest gradually sank.

October 3rd. All three birds present; hen to-day lying on nest, cock close by.

All the birds were also present at the beginning of November, but I have no more notes, and very shortly after this I left India for good.

I would particularly draw the attention of aviculturists to the failures of these birds, although they were obviously most anxious to breed and were living under favourable conditions, to bring off their young at times; this may be a consolation to those who may be inclined to repine at failures in breeding birds in captivity, and to put these down to unnatural conditions. One does not often get an opportunity of becoming intimately acquainted with the lives of a pair of wild birds such as these were, and the fact that they have their difficulties just as much as aviculturists, is worthy of notice.

The Misdeeds of the Sparrow.

By VERBUM SAPIENTIBUS.

RUFFIAN, avian rat, and general miscreant, as this well-known bird is universally admitted to be, anathematised by the farmers, whose Clubs have set a price on his unlucky head, and denounced by the Board of Agriculture as a devastator and robber of gardens, a destroyer of crocuses and primroses, and, generally, as a most unmitigated nuisance, I may still be excused for bearing my testimony to yet another of his misdeeds, namely, an unpardonable and by many wholly unsuspected crime, of the perpetration of which I happened to have been an eye-witness on the 26th of last May.

I was sitting in one of the many public gardens that adorn and beautify the Metropolis, when my attention was arrested by the movements of a couple of Sparrows at no great distance from the bench, or garden seat, on which I sat. They were so intent on their occupation, whatever it was, that they seemed to ignore my presence altogether, and for some time I could not make out what they were doing, but it soon became evident that they had a nest not far off, and on watching them more closely, I was enabled to locate it in a withered oak about ten paces to my left. There were young ones in it, for I could hear a faint chirping each time one of the old birds popped into the crevice in the bark where they had built their domicile, and as one or other of the parent birds did this about every two or three minutes, the nestlings must have been pretty hungry, and the wherewithal to satisfy the craving of their appetite not very far to seek, nor very difficult to find.

Of what did the pabulum consist? There were no green peas about, nor cherries, not a gooseberry even, a crocus or a primrose; no wheat, nor cereal of any kind, and yet those young Sparrows were being fed, and fed freely too, with some sort of food that they appeared, to judge by their chirping and the constant attention of the parents, to appreciate.

Both the old birds were engaged in the task of feeding the young ones, but the mother was the more successful forager of the two, for she visited, and no doubt fed her offspring three times to once that her mate did. If she happened to be in the nest-hole when he arrived, instead of waiting, as a good father and husband should have done, until she came out again, he swallowed whatever he had in his bill and flew away, unless he stayed to philander with another lady sparrow, of which there were a number about the place, which shows that as well as being a thief and lazy, he had not much to boast of in the way of morals.

Well, it was interesting, and I remained an amused spectator of the little comedy for a full half hour, during which time the birds must have visited the nest on at least twenty different occasions, and not once did they enter it empty-handed, or I should say empty-billed.

Whatever the food was, it was collected in the grass, along the edge of a tiny stream that meanders slowly through the garden, or among the ornamental shrubs and flowers that luxuriate in its beds and borders. I watched very carefully, and for some time was unable to discover what it was that the Sparrows were picking up; then I perceived that the hen flew down to a rose-bush I had noticed was covered with green-fly, and there she quickly filled her mouth with the insects and returned to her nest, and when she had fed her little ones, she went back to the bush, and so on several times, when she once more began to rummage in the grass, always returning to the nest with her mouth full, then she picked up something by the margin of the little stream, or among the foliage of the ornamental shrubs. Afterwards when I looked at the rose-bush, I was able to see a decided decrease of the numbers of its insect inhabitants. What the birds collected by the side of the brooklet I do not know, but I am sure they found caterpillars on the shrubs, and little moths and flies in the grass.

Just think of it! all those dear little insects that enjoy life so much sacrificed to the appetite of a nest-full of wretched Sparrows! But it does not bear thinking about. It may be objected that the insects do harm to vegetation; nonsense! they have as much right to live as the birds, especially Sparrows, and I should like to see a nice kind Society established for their protection.

Post Mortem Reports.

(*Vide Rules*).

ROCK THRUSH, hen. (Mr. True). Septicæmia was the cause of death. The history given points to a duration of at least four months, and the *post mortem* appearances of the organs were in accordance with the history (*vide* The Story of Bird Death in next number). Why were the perches in the cage covered with plaster of Paris? The proper perch is described in Vol. III. page 216.

BICHENO FINCH. (Mr. Fillmer). Death was caused by shock and exhaustion due to egg binding.

CANARY. (Mr. Tweed). The proventiculus and gizzard were distended with macerated food, while the intestines were perfectly empty. The lining membrane of the stomach cavities was chronically inflamed and thickened, and it was this condition which appeared to constitute the obstruction at the pyloric orifice of the gizzard.

ROSKATE COCKATOO. (Mr. Wheeler). This bird died of fatty degeneration of the liver of old standing, and also pneumonia of recent date.

W. GEO. CRESWELL.

Review.

British Bird Life: being popular sketches of every species of bird now regularly nesting in the British Isles. By W. Percival Westell, M.B.O.U., F.R.H.S., etc. T. Fisher Unwin. Five Shillings.

There seems no end to the popular books on British birds—this one is very like many which have preceded it, and it will no doubt be followed by a still greater number of similar works. With every inclination to welcome them appreciatively, one cannot help wondering who the people are who buy and (presumably) read them all.

This one, which boasts an introduction by Sir Herbert Maxwell, is constructed on the principle of including only those species which breed in Britain—possibly such a classification has its advantages, but it results in excluding, amongst others, the common Bramble-finch. The 177 species dealt with are arranged alphabetically, about two pages being devoted to each. There are numerous illustrations, some from drawings and some from photographs—the latter much better than the former.

It seems to be an admirable book of its kind, but of no special interest to the aviculturist.

The Author is strong, and rightly so, on the benefits conferred by birds upon the agriculturist—but we are a little amused by his remark, after enumerating the various wild seeds consumed by Goldfinches, that "this is no mere haphazard list, but one published by the Board of Agriculture." We are afraid the Board of Agriculture can hardly be considered an authority on matters ornithological, certainly not if the hopelessly out-of-date pamphlet on Liver Disease in Poultry which they still circulate is to be taken as representative of their scientific knowledge.

Short Notes, and Letters to the Editor.

THE PURPLE-CAPPED LORY.

Sir,—I sent you a contribution a little time ago in the form of a description of my Purple-capped Lory—the most beautiful and companionable bird I ever possessed, and I have owned many. I often took him into my bed on a cold morning to his great delight, when he would cuddle up to me for warmth. I began this practice with him on board ship when bringing him home from Ceylon last year.

I am sorry to say that I now have to mourn his death. Alas! I found him dead, hanging from his perch by one toe, about Christmas. He appeared in perfect health the night before, when taking tea with me, which he loved and enjoyed.

I am now anxious to know if Purple-caps are liable to die in this manner, as I am aware that some birds live but a short time in captivity, and I contemplate acquiring another of the same species.

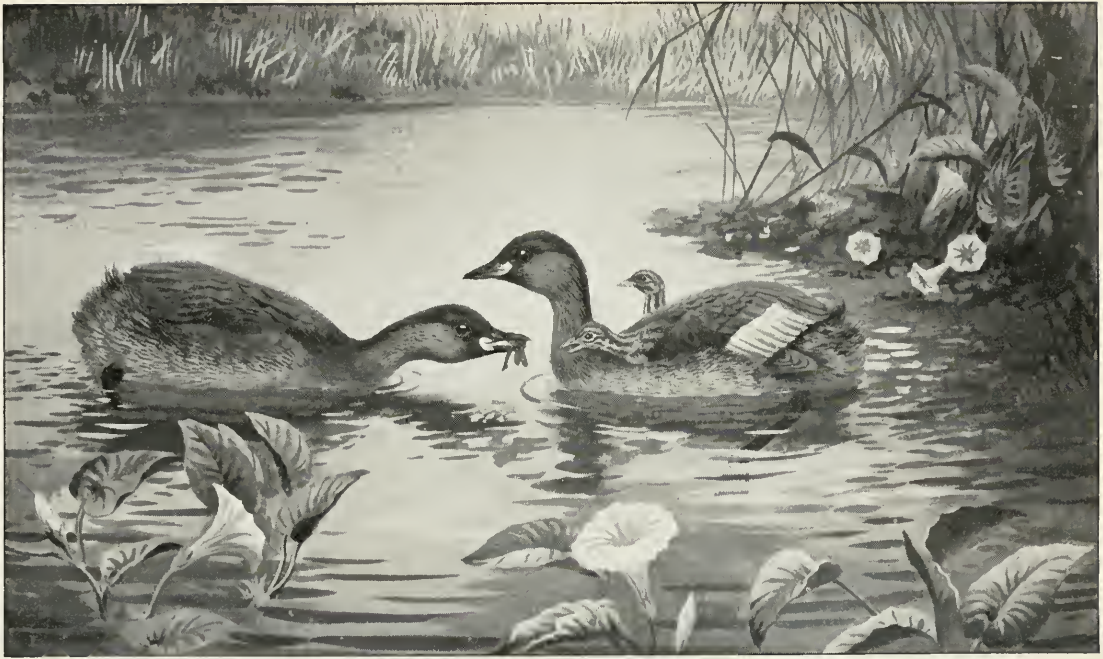
I also want to know if there is any distinctive mark distinguishing the sexes, and what it may be. Is one sex better at talking and imitating than the other, and which?

Perhaps some kind correspondent will answer these questions, and give me any information about these interesting and beautiful birds. I shall feel much obliged, and it may be of general interest to your readers.

There were few things that my Lory would not eat, and in large quantities, particularly potatoes and apples. He loved tea, and would drink a lot of it. It may be that they require to be dieted.

I think they are the most interesting of the Parrot kind, as they are never dull or sleepy. I never saw my "Rajah"—this was his name—asleep: we often wished he would sleep, he was so noisy. He had the power of producing from his throat a greater range of tone and note than any bird I ever heard. Nothing pleased him so much as putting him on his back and tickling him under his wings: he then caressed my hand by running his beak over it in a sort of nibbling manner, evidently the Lory's method of kissing. He never bit me, but was not safe with strangers. He was not destructive to woodwork like most Parrots, as his beak was not formed for opening nuts, which he never attempted to do; indeed, he never ate nuts. Purple-capped Lories are chiefly frugivorous. They do not seem to be commonly brought to this country, and in their wild state are confined to the Moluccas.

I wish someone who has seen them in those Islands would tell us about them, and about the Islands of Moluccas, which are little known in this part of the world. Lories come from thence.
W. F. SMITHWICK, (Captain).



Drawn by H. Goodchild *From a Sketch by F. Finn*

INDIAN DABCHICK

The Redstart.

By the Rev. C. D. FARRAR.

DR. JOHNSON once remarked that it was the duty of a biographer to state all the failings of a respectable character. If I were to relate all mine it would take too long, so I must be content with one. I can never say No, to a good offer; when, therefore, I was offered, sometime since, a pair of Redstarts, I fell an easy prey to the tempter. I had had Redstarts before—and lost them—a Nightingale kindly put an end to one pair, a Robin to another. But what of that? Was not Cæsar indebted for his success not so much to his wonderful talent as to the single disposition of mind—*Nil actum reputans si quid superesset agendum.* It was the same with me: I had not only to buy Redstarts, but to keep them alive! And after all, in one case at any rate, the fault had not been mine. If the question had been asked, as in the old nursery rhyme, 'Who killed the Redstart?' the answer would have immediately been 'I, said cock Robin!'

My cock Redstart, when I first got him, was not exactly a thing of beauty, as his tail resembled a worn out shaving-brush, and his poor wings were decidedly the worse for wear. The fact that I had bought such a scarecrow at all reminded me of a little lad in 'Aunt Huldah,' the witty American book lately published. "'Aunt Huldy,' said the child suddenly, 'it's just like Iroy Gilbert said, you go and hunt up all the pretty children, all the nice children, an' you just keep the old ugly ones, like me, that nobody'll have.'"

A friend happened to call the day the bird arrived—why will people call at inopportune moments?—and, after looking him up and down with unconcealed contempt, exclaimed, 'What do you call that thing?' I remarked—I hope in a quiet and Christian spirit—

that I believed he was looking at a cock Redstart. 'Look,' I said, 'at his beautiful eyes, and his lovely colours, and when his tail is grown and his wings moulted out, he will be a gem.' 'Will be!' he said, 'I might have known you'd find good to say for him. I reckon when they want somebody to apologize for "the Old Boy" himself they will come to you!'

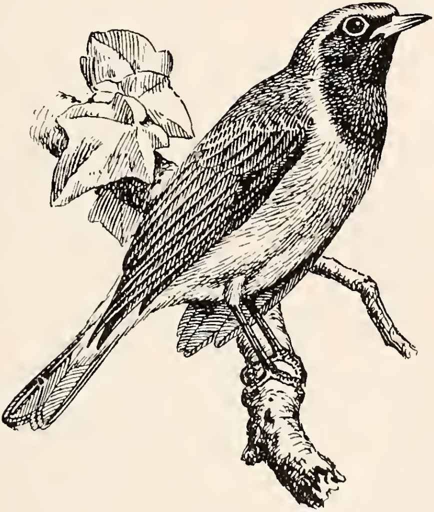
Not many days after, I was lucky enough to light on a lady Redstart for the modest price of 3s. 6d. I have arrived at that philosphical time of life when it is possible to place the curb of discretion in the mouth of inclination, and to obtain as much satisfaction in hazarding a few shillings on some comparatively common bird, as might formerly have been derived from the investment of many pounds in some out-of-the-way specimen.

When I introduced the hen, the cock was overjoyed. His actions strongly reminded me of the young lady's remark when she heard S. Paul's uninspired opinions on marriage, that those who were married did well, and those who remained single did better,—that 'she did not want to be better—but well!'

Many years ago, when my cock Nightingale killed my cock Redstart, I added yet another paving-stone to the Infernal Regions by determining never to get another. And yet here I am with a pair!

Some people say that the Redstart is timid: I should say that he is particularly fearless. He hops on to the food-saucer with the sort of look, I should imagine, that that historic character must have worn who is said to have remarked, 'Fear! who is he? I have never met him!'

He is always exquisitely groomed, never a feather out of place. He reminds me of a husband I once read about—I never expect to meet him—who, when he was asked why he was always so scrupulously neat in his dress, when he expected no company, made this reply: 'Because, 'said he, 'there is one woman in the world who is obliged to receive me in any dress.' Clearly Mr. Redstart thinks the same of his sober little Puritan wife, who always so modestly keeps in the background. He must give a lot of time every day to keep, what an old woman I knew called, 'a extry particular going one.' There is only one time in the day when Mr. Redstart gets a bit sulky: it is when his little partner slips away with a fat meal-worm; then he looks as grouty as King Ahab when he turned his face to the wall and would eat no bread.



REDSTART.

From a Male in Mr. Maxwell's Aviary.

The song of the Redstart is nothing very special, but sometimes he will open out a little, perhaps to shew, Todgers-like, 'he can do it when he likes.'

I only wish my readers could see my beautiful Redstarts to-day: I am sure they will never believe mere words. I feel in writing about their loveliness just what the Swiss guide did, who had been to stay at a grand place in the West of England, owned by one of his patrons. Nils (that was the guide's name) was never tired of telling, but not to his compatriots. 'It is no good me telling dem what I see in England,' he would ruefully remark, 'dey only t'ink me a liar!

People often say to me, 'Oh, how nice it must be, Mr. Farrar, to keep those pretty softbills!' But I often think of the words of Mrs. Poyser, in 'Adam Bede.' "The Miss Irwins allys says, 'Oh, Mrs. Poyser, I envy you your dairy, and I envy you your chickens, and what a beautiful thing a farm house is, to be sure.' An' I say 'Yes, a farm house is a fine thing for them as looks on, an' don't know the liftin' an' the stannin', an' the worritin' o' the inside, as belongs t' it.'" Softbills require the greatest care as regards diet, or they will soon join the great majority, and they must have a constant supply of live insects of some sort—therefore they are expensive to keep; but, as the old proverb says, 'It is a poor rider that starves his own nag's belly.' Unless, therefore, people are prepared to spend money freely they should let softbills alone. Peameal may be a good solid diet, but it will not suit Redstarts, for example.

I hope, next year, to get my Redstarts to breed, but, as Socrates said of a good Political Constitution, 'this is a thing to be hoped for rather than a probability.' Still, Hope is almost as helpful a companion as Certainty, and the best critic that ever wrote, speaking of some passages of Homer which appear frivolous, says indeed they are dreams, but the dreams of Jupiter. I console myself with the thought that on one has been beforehand with me, at any rate; and was it not the praise of Hector that he always stood foremost in the battle?

As I end off these somewhat discursive remarks, I am mindful of Gray's opinion of Boswell's book on Corsica, which, he says, proves that any fool may write a most valuable book by chance, if he will only tell what he heard and saw with veracity.

I should like to add one word of caution: Be very careful with what sort of companions you put your Redstarts. They have very little fight in them—in fact they will sit and be done to death. I found one poor little chap dead under the seed tray, with his head literally smashed in by a Robin. If you persist in associating Robins and Nightingales with Redstarts it will be the same unless you follow my advice.

Bird Travellers.

By SYLVIA.

THROUGHOUT the animal kingdom there is probably no class of phenomena which has baffled the penetration of scientific men so thoroughly as that which is connected with what is called migration. The habit of setting out on periodical pilgrimages is, from whatever cause, common to mammals, reptiles, and fishes; it is strongly marked among insects; many butterflies, for instance, making astonishing transmarine excursions; but it is nowhere so extensive, so interesting, and yet so inexplicable, as among birds, and to these we shall confine our attention in the following article.

Our unscientific forefathers were wont to ascribe the periodical disappearance of the smaller birds, such as the Swallow and Cuckoo, to their withdrawing, on the approach of cold weather, to out-of-the-way holes and corners, where they passed the winter in sleep. Another widespread belief was that large birds—Storks, Herons, and Cranes—whose departure each autumn was manifest to all, carried off their smaller brethren on their backs or otherwise.

Nowadays we have advanced a step beyond this stage; but, as to the primary as well as the more immediate causes of the seasonal migration of birds, our knowledge is still largely confined to speculation, albeit speculation of a type somewhat different to that of our ancestors. To these causes we shall revert, after we have considered some of the facts of which we are cognizant.

We know, then, that a large number of birds all over the world change their abode according to the season. As regards our own country, we find that some—for example, the Nightingale—arrive from the south in spring to breed, and depart in autumn; others, such as the Fieldfare, whose nesting areas reach the Arctic Circle, spend the winter with us, and return thither in spring. Others, again, commonly called "birds of passage," appear but twice a year, in autumn and in spring, passing through the country without staying in it, on their way to and from their breeding places farther north and their winter quarters farther south. Many of these are reared amid arctic snow, and yet annually visit the tropics: the Knot and the Sanderling are examples.

Even such sedentary birds as our Robin, are, on careful investigation, found to be in some degree "partial migrants," although that term is usually confined to those species, a few individuals only of which remain with us all the year round. Great flocks of Robins arrive every autumn on our eastern coasts from the Continent, and many also leave us at the same period for more southerly countries.

Perhaps the most interesting facts in connection with the migration flight of birds are, the vast heights at which they often travel, the velocity with which they fly, and the enormous distances which they cover. On the night of the 19th October, 1880, Professor Scott of Princeton University, while looking through an astronomical telescope, observed flocks of small land-birds pass across the face of the moon, while on their Continental migration, at an altitude varying from one to two miles. Mr. F. M. Chapman, on the evening of 3rd September, 1887, saw 262 birds passing across the moon's disc, some of which were flying at a height of 15,100 feet, or nearly three miles.* The late Herr Gätke, who spent a long life observing the migration phenomena of Heligoland, was of the opinion that the normal migration flight is carried on at the height of close on four miles.

In very calm weather, and when a south-easterly wind prevails, the migrants uniformly approach nearer the earth's surface. It is on still dark autumn nights that the great "rushes," as the light-keepers call them, take place at marine stations. Myriads of birds of the most incongruous species, Larks, Starlings, Lapwings, Woodcock, Geese, Curlews, Goldcrests, Robins, and scores of others, whirl and eddy round the light-houses, or dart past with inconceivable swiftness, large numbers dashing themselves against the glasses.

In regard to the velocity of the migration flight there is some interesting evidence extant. The slow-flying Hooded Crow is said to perform its autumn journey from Germany to our eastern coast at the rate of 108 miles an hour. Gätke tells us † that the Bluethroat (a pretty little bird closely allied to our Nightingale) can cover at a single flight the distance of nearly

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* Professor Newton, *Dict. of Birds.*

† Vogelwarte Heligoland.

1600 miles between Egypt, its winter home, and Heligoland, during the course of a spring night. Mr. J. M. Jones, in *The Naturalist in Bermuda*, tells us how the Virginian Plover travels from Hudson Bay Territory and Labrador to the south of Brazil, over 3000 miles, without resting. Vast flocks of these birds have been watched for days and nights together, flying over the Atlantic, 600 miles east of Bermuda, the journey of each individual probably occupying less than fifteen hours.

What guides the birds during their migrations is still a mystery. "Any one," says Gätke, "who, on dark starless autumn nights, has heard the babel of voices of the hundreds of thousands, and even millions, of birds travelling past him overhead, in one fixed direction, . . . without the help of any guiding mark discernible by human eye, cannot fail to be led . . . . to speculate as to what kind of capacities the unfailing performance of such an act is due." Such speculations there are, but few are in the least degree satisfactory.

Dr. von Middendorff, however, in his *Siberische Reise* (Siberian Voyage), gives a valuable hint in this connection. He remarks the wonderful "sense of direction (*Richtsinn*) possessed by the Samoyedes who travel on the vast tundras of Northern Asia, a "sense" which is known to be possessed by other savage races; and he argues that it is this faculty enormously exaggerated which enables migrating flocks to judge the direction of their flight.

On the theories which have been advanced on the subject of the primary origin of migration it is not necessary to dwell here. Those dealing with the more immediate causes can scarcely be regarded as satisfactory. That change of temperature and failure of food supply do, to some extent, impel the species which breed in temperate latitudes to shift their quarters southward, cannot be doubted. But how can we account for the fact that large numbers of young birds yearly commence their southerly migration in July, and that some species, the Swift for example, leave our shores to a bird early in August, when temperature and food supply are alike at their highest point.

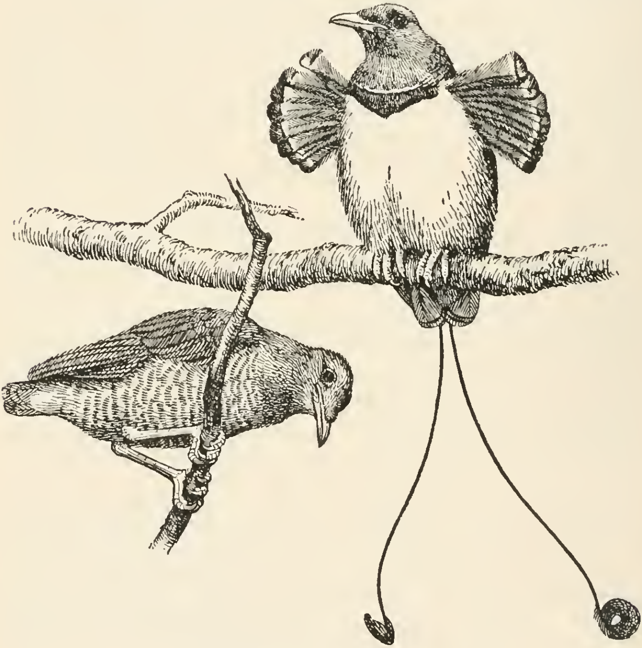
Then, again, why do birds return every spring from their winter haunts in tropical and subtropical regions, to their less plentifully-endowed northern breeding areas? A natural longing to nest year after year, not only in the same district, but also in the identical spot, is widely apparent; but whence comes it?

The subject of exceptional migration can only be briefly referred to here, and in conclusion. The advent of rare and unusual bird visitors seems to be partly due to exceptional meteorological conditions. This seems to be the cause of the occasional appearance in Britain of the Crossbill and Waxwing, and of the invasions of Pallas' Sandgrouse, an Asiatic species which visited our shores in 1863 in considerable, and in 1888 in enormous, numbers.

But the majority of rare occurences seem to depend on fixed laws. Many species which have their normal migration routes in Eastern and Central Asia, for instance, seem to be influenced in such a way that numbers of individuals are periodically deflected from their course in a westerly direction, and appear as rare stragglers in Western Europe.

Birds of Paradise at the Zoological Gardens.

THERE are at the time of writing no less than five specimens of Birds of Paradise at the Zoological Gardens in Regent's Park. These five individuals belong to three species, viz., The Great or Emerald Bird of Paradise *(Paradisea apoda)*, the Lesser Bird of Paradise *(P. minor)* and the King Bird of Paradise *(Cicinnurus regius)*.

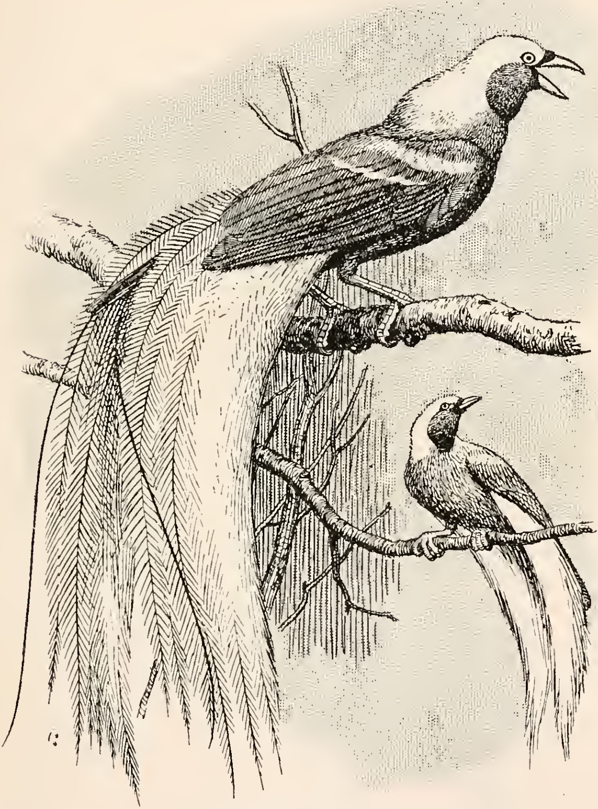


KING BIRD OF PARADISE. ♂ & ♀

(Cicinnurus regius).

Male drawn from one of the two living birds.

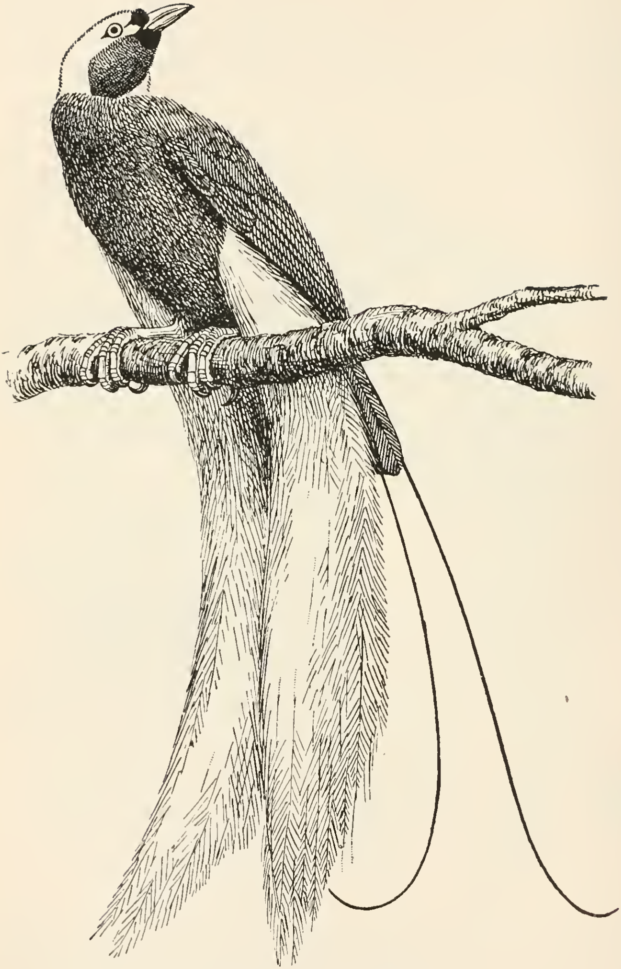
Of the first named the Society have possessed one specimen before (*vide* "Bird Notes," Vol. I. p. 277, Vol. II. pp. 46 and 84), of the second they have had several at one time or another, while the last, of which they possess two males, is new to the collection. All five birds are at present in the Insect House.



LESSER BIRD OF PARADISE

(Paradisea minor). *Drawn from life.*

At the time of writing one of the two male Lesser Birds is in full nuptial plumage and the other completely out of it.



GREAT BIRD OF PARADISE
(Paradisea apoda).

Drawn from life.

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S., etc.

(Continued from page 221, Vol. III.)

It may perhaps enhance the interest felt in our subject by the general reader, if I illustrate the foregoing description of the pathological course and appearances of the disease by a few examples, culled from the great number of cases which at various times I have investigated. This will not only possess the advantage of presenting these instances as definite pictures, but will also allow of our discussing as far as possible the symptoms observed during life. The limitation involved in the expression "as far as possible" is very necessary, because—contrary to what might be thought—the symptoms are necessarily very vague, and each one taken by itself might point equally to more than one disease. Even in the case of the human subject the same thing obtains. A person is seen to be somewhat impeded in the act of breathing, and to have a cough either at frequent or very infrequent intervals. Now this condition taken by itself tells the physician nothing, although it is quite sufficient for the kindly amateur or for the quack, either of whom according to the leading fancy for the time obsessing his individual mind, will promptly diagnose either bronchitis, croup, asthma, consumption, pleurisy, inflammation of the lungs, or perhaps even "cough." How then does the physician come to a conclusion as to what disease or combination of diseases this patient with a cough and impeded breathing is afflicted with? In the first place the particular quality of these two symptoms is carefully weighed and taken in conjunction with various other phenomena, which have escaped the notice of the lay attendants, but which taken altogether are of real importance. And then—more important still—comes the physical examination of the patient. Inspection and comparison of one side of the chest with the other, percussion and noting the different qualities of sound produced thereby in different areas of the chest, the alteration of the breath and voice sounds in its differing degrees as shewn on auscultation, and the varying qualities of the thrill communicated to the palm of the hand when laid on the chest while the patient repeats the formula "ninety nine"—all these, together with other observations which present themselves to the skilled man, are absolutely necessary if one is to diagnose such a comparatively simple thing as one of the diseases mentioned. If then one or two mere symptoms are of so little use in determining the correct nature of a disease in the human subject, what can their value be in the case of a tiny bird in which it is manifestly impossible to apply the extended tests of physical examination? How can we trust the "expert's" diagnosis of asthma on the strength of a bird's panting for breath? or how can we say with full confidence that the same bird is suffering from either pneumonia or septic fever? Even in the same disease the symptoms will be found to vary considerably in individual cases, and this can be readily understood when we once recognize that each symptom is but the outward and visible result of some inward pathological change, and therefore depends in a general way for its own intensity upon that of the condition causing it. And furthermore it will be equally clear that in one and the same case any particular symptom may vary from time to time. For instance, just as the catarrh of the intestine (enteritis) is mild or severe, so will the consequent diarrhœa be slight or profuse. In like manner the character of the fæces will also vary. They may be either glairy from the presence of large quantities of mucus, or thin and frothy from rapid decomposition while yet in the bowel; either pale in colour from retention of bile and its consequent absence from the intestines, or else stained with effused and broken down blood. In the latter case the stain may vary from the slightest discoloration to almost perfect blackness. Sometimes fresh blood is voided with the fæces. Again, in the acute and earlier stages of the disease we are treating of, we should always expect to find a marked increase of temperature, which of course would gradually decline as the bird either approached recovery, or else drifted into a chronic condition. Swelling and redness of the abdomen would be absent in the very early stages but would become more pronounced as the liver and spleen became larger and more deeply congested with blood. And so symptoms which are well marked in one case, may in another be so slight as to escape casual notice, or indeed may be altogether absent.

In selecting instances for illustration I have given preference to those of a more or less chronic character. Those which occur in acute and virulent epidemics are for the most part so rapid in their course as to present but few points of interest beyond the stereotyped statement that "within the past fortnight the "birds have been dying at the rate of seven or eight a "day; they become dull and mopey, pant for breath, "and generally die within two days." Such cases as these require no further notice beyond what can be gleaned from the foregoing pages.

But here is an account of a Rock-Thrush which belonged to a member of the Foreign Bird Club. It was in its owner's possession for six months, during the last four of which it was "wasting away. Although "a large eater, food seemed to do it no good: its beak "was always open and the breathing often short and "hard. For nearly the whole time of the illness the "fæces were copious, white, gummy, and frothy." On *post mortem* examination the bird was very thin, and the vent feathers were clogged with dried fæces. The liver and spleen were much enlarged, the latter organ being indeed so enormous as to be doubled upon itself as the only condition upon which room could be found for it in the abdominal cavity. (If it could have been straightened out it would have been 1¾ inch in length.) It was thickly studded with cheesy deposits, which were also present in great number on the internal surface of the sternum in connection with the walls of the air sacs. The intestines and abdominal air sacs (mesentery) gave evidence of old standing inflammation, being in places firmly bound down and matted together; and finally the bones of the skull and the surface of the brain presented extravasations of blood as evidence of the final and immediate cause of death. Microscopical examination of the spleen, liver, and the sternal deposits, shewed the typical bacilli of septicæmia to be present in each. The lungs were quite healthy, shewing that the difficulty of breathing observed during life had been directly due to the action of the blood poison on the nervous system.

A Song-Thrush belonging to a gentleman in Kingston suffered from "some malignant growth in "the mouth. The development of this growth was "apparently the work of some few days only, yet it "had the effect of forcing out the tongue of the bird, "so that it hung over the side of the bill. The growth "was situated at the front of the lower mandible inside. "The tongue too had been attacked, not by any growth "however. On the contrary it had been eaten away, "there being quite a hole in the fleshy part towards the "base. . . ." This description, given by a very observant layman, is so good as regards the physical appearances presented that I reproduce it in spite of the slight technical inaccuracies for which its writer may under the circumstances be easily forgiven. On examination the growths (for they were multiple) turned out not to be growths at all, but to be merely typical septic nodules or deposits, and the cavity on the base of the tongue was just the result of one of these superficial submucous deposits having been quite recently broken away. This case was a good example of the rapidity with which these septic deposits can be formed.

The following cases occurring in pigeons are also illustrative of this rapidity. In April 1903 a two year old pigeon, bought the previous January, while feeding young began to walk about with his crop all flabby, sat about on the floor, and rapidly became very weak. Respiration was hurried; food was taken fairly well, but the bird steadily wasted away. On being held upside down a quantity of greenish watery fluid with an exceedingly foul smell would drop out of the mouth. There was constant diarrhœa, the excreta being profuse and gelatinous in appearance. *On the 14th day of the illness* the bird died, and its owner, a medical man, sent the body to a veterinary surgeon for examination. His report was "tuberculosis." In the June following another Cropper in the same loft suffered from exactly the same symptoms and died on the 10th day of the attack. The next day I made an examination. The body was much emaciated, the vent feathers very dirty, the spleen much enlarged and full of nodules. The liver was also nodulated and the intestines much discoloured. Microscopical examination of films (stained by the Ziehl-Neelson method) failed to show any tubercle bacilli, but did reveal dense crowds of septic bacilli in the spleen and a few in the heart blood.

Here is another instructive history. A prominent Pouter fancier bought some ordinary Homer pigeons to serve as foster parents for his young Pouters. Among these was a hen "in bad health, with soft, sticky, and yellowish green droppings." After being kept a few days she was returned. About a month afterwards a young bird was found to have "canker of the mouth" and was killed and thrown away. Another wasted away, and had soft and green excreta, dying at the early age of four weeks. This one was sent to me. It was very emaciated; the intestines were inflamed and dark in colour. In the lower part of the abdomen there was a large caseous mass adherent to the skin and to the intestines, dipping down between the coils of the latter, and so adherent everywhere that it was impossible to remove it entire. Microscopically this mass was found to be the usual septicæmic deposit and to show dense crowds of cocci, diplococci, and bacilli of the typical form. Another bird from the same loft, which died when only three weeks old of the same disease, had three large areas of its liver substance transformed into cheesy material, occupying in the aggregate about half of the entire organ.

Did space permit, many more examples occurring among pigeons could be brought forward—such as "wing disease," &c. — to demonstrate the identity under the heading of septicæmia of many of the loosely named and suppositiously different ailments to which these birds are said to be subject. There is however before me one case of so much interest that I cannot omit it. A Wood-pigeon which was shot by a country gentleman was thought by him to be affected by what is known in the case of domestic fowls as scaly-leg, a disease which is produced by dense colonies of minute mites (*Sarcoptes mutans*) burrowing under the scales of the foot.* He therefore sent it on to me for verification. The bird was extremely thin. The internal organs were unsuitable for microscopic examination as it had been badly shot and *post mortem* sepsis had followed the shot tracks. But on various parts of the feet, *principally the joints*, there were hard excrescences analogous in structure to the "horns" sometimes met with on the faces of Parrots. The outer layers were hard and scaly, getting softer and softer lower down till at the capsule of the joint the matter was semi-fluid. On the metatarsus of one foot there was one of these limpet like lumps midway between the heel and the toes and in connection with the sheath of a tendon. Of course as soon as one of the scabs was raised it was quite evident even to the unaided eye that the disease was not scaly-leg, and I was not altogether surprised to find that while the harder portion of the excrescences consisted principally of débris containing but few bacilli, the softer portions were composed almost entirely of these, being teeming masses of both Koch's and Davaine's forms.

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* Theobald. *Parasitic Diseases of Poultry*, 1896. Page 40.

In both Red and Black Grouse have I found these cheesy nodules. In one specimen of the latter species, aged only six weeks, and sent to me by Mr. Pycraft, there was a deposit two inches long in connection with the wall of one of the cæca and practically filling its lumen.

A domestic fowl was sent alive to me by a gentleman at Gravesend, with the history that from time to time he had lost birds from what appeared to be the same disease. This pullet had been ill about three months, eating but little and moping about the yard. I killed it with chloroform and examined it at once. It was very anæmic and almost a skeleton: the liver was enormously enlarged, very soft, and literally full of nodules: the spleen was the size of an ordinary hen's egg, very hard, and infiltrated with cheesy nodules, its capsule being very tough. The abdominal glands were much increased in size, some being cheesy, some partially fatty, and some calcareous. The intestines were inflamed, and both cæca had a cheesy nodule in their walls about half way down their length. Projecting into the abdominal cavity from the right side of the spine just above the kidney was a large irregular excrescence. Staining in the special way for tubercle bacilli failed to show any of these in any of the organs, but septic organisms were found. In this connection the case was very illustrative as regards the relationship between the organisms and chronicity. In the spleen, liver, and abdominal glands, which as we have seen had been affected at least three months, there were very few indeed, while the bony excrescence, which naturally would be the most recent local effect of the disease, revealed crowds of them.

(*To be continued*).

Review.

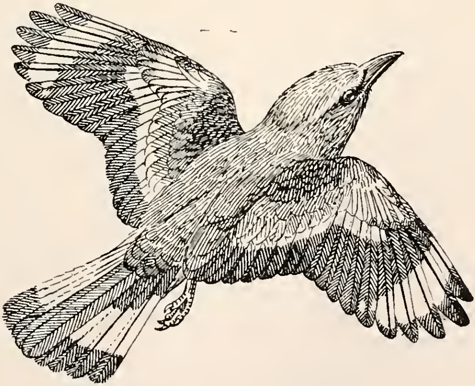
The Birds of Calcutta. By Frank Finn, B.A. (Oxon.), F.Z.S., M.B.O.U. Second Edition. Crown 8vo., paper cover, 2/6 net. W. Thacker & Co., 2, Creed Lane, Ludgate Hill, London.

The fact that a second edition of this popular little book having been called for shows that the bird-loving public, either at home or in India, or both, have appreciated the first. The edition now before us has been brought up-to-date, and is illustrated with twelve little drawings in line. This book is no dry and matter-of-fact work, but one that anyone interested in birds may read with pleasure. The author's vein of humour is shown on every page, and not his humour only, for one cannot help seeing that it is written by a man who is a keen observer and who has his heart in his subject. Mr. Finn is an all-round naturalist, who knows the scientific side of bird life, and is a keen aviculturist, as well as being a field naturalist. As may be supposed, he has touched on all points of view, but left that part of the subject that can be learnt in Museums, in the background, and tells us instead just what one would wish to be told by a man who has seen his subjects "at home" in the fullest sense of the word. Mr. Finn seems able to see what so few ornithologists appear to see, viz., what a bird is *thinking* about, with the consequence that his writings in general, and this little book in particular, have a piquant interest that will commend itself to all who love the living birds, either in captivity or in a state of nature.

It may not be generally known that Mr. Finn is an amateur artist of no small ability, and those of the drawings in his book which were not drawn direct from life by Mr. Goodchild, were done from sketches provided by the author.

By the kindness of the author and the publishers we are able to give our readers one of the twenty-four chapters intact, with its illustration (which appears on the cover, but unfortunately has not the name put to it) and this will give them a clear idea of the scope and style of the work. We are also enabled to give the illustration of the Golden-backed Woodpecker.

Copies may be obtained direct from the publishers.



THE BLUE JAY OR ROLLER.

THE BLUE-JAY.

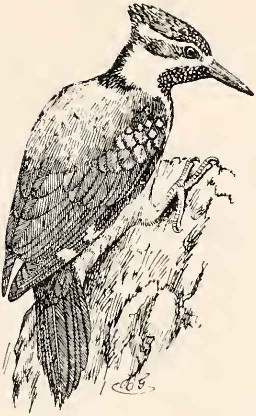
"A lovely bird, with azure wings."—BYRON.

One can hardly go on with the above quotation and credit the subject of the present article with a "song that said a thousand things," for the Blue-Jay's vocalizations are limited to a degree. Ordinarily, as has been neatly remarked, he "encourages himself in patience" by uttering a sound like "tschok" at intervals, and more rarely he points his bill to heaven and his tail to earth and utters a cackling laugh, in feeble imitation of the great Australian Kingfisher, commonly known as the Laughing Jackass (*Dacelo gigas*). As a matter of fact, our present friend is more kingfisher than jay, this poverty of vocabulary being one of the points in which the relationship comes out; real jays having a remarkable flexibility of voice, though their ordinary remarks are not much more musical than those of the Roller family, to which the Indian Blue-Jay really belongs. Rollers also agree with kingfishers, and differ from jays, in several easily noticeable points of habit, to say nothing of more recondite anatomical distinctions. Thus, they extend their feet behind when flying, instead of drawing them up to the breast like the crow tribe; they bolt their food whole, never tearing it with bill and foot like the real jay; they are practically pure animal feeders, and do not lay up stores against a time of scarcity, unlike the omnivorous and provident corvine jays; and most important of all, they nest in holes and lay white eggs. It is this common confusion between two groups of birds very well known in their respective habitats that makes it excusable to include in this series a bird which is not common in Calcutta by any means. In fact, I was personally acquainted with only one wild specimen, who was generally to be seen on one of the furlong posts of the racecourse, just opposite the jail. Hereabouts he spent most of his time, for Rollers, again unlike the birds whose name they borrow, are very sedentary birds, waiting until they see some small living thing and then pouncing upon it, instead of actively hunting about. As to the quality of the game, they are not very particular, for, as I have proved with a captive bird, they will eat and digest toads, which are a good deal too much for some birds' insides. The Roller throws up the hard part of its food in quids or pellets, like many other insectivorous birds. Young rollers are ugly little creatures at first, being quite naked, but when the feathers have grown enough to cover the body they are very pretty: their plumage, with the wings and tail banded with Oxford and Cambridge blue, being like that of their parents; for, unlike many brilliant birds, the Indian Roller has a common livery for all ages and both sexes. The large dark eyes also do not change with age, and give the young birds a singularly innocent appearance, which rather belies their real disposition; for they are greedy little creatures and, when hungry, will fight violently over their food; although I have seen a youngster which I had filled up kindly present an extra piece to a brother fledgling. Young Rollers are quite easy to rear if fed on raw meat and cockroaches, and will grow up very tame. But they are not interesting pets, for in a small cage they beat and break their beautiful plumage, and in an aviary sit still so much that they are not a very great acquisition. Indeed, so sedentary are the Roller's ordinary habits, and so inconspicuous are the pinky-drab and sea-green of his plumage in repose, that our American winter visitors have called him "the surprise bird," in allusion to the startling display of colour he gives as he takes wing, looking like a great butterfly in his lazy flapping flight. Like many of these weak-looking fliers, however, he is really very active in the air, as might have been seen in the case of the race-course habitué above-mentioned when he was badgered by the local crows, who seemed to cherish a prejudice against him.

The *Nilkant*, as the Roller is called by the natives is, with them, a sacred bird, and once at least a throne has been gained by the holy fowl—no doubt a trained specimen—alighting on the successful candidate's head. And certainly, if beauty deserves the honour of worship, the roller has full right to it, more especially as he is absolutely harmless; for, when he does fly, he is almost the most effective bird one could have in a landscape. Fortunately, although I fear many have been killed for their plumage, the roller is, over a large part of this country, exceedingly common, and extends westward, through Persia, to the Levant. Hereabouts he is on the confines of his eastern range, for from about the longitude of Calcutta he begins to intermarry with the darker Burmese species, called *Coracias affinis*, our bird being *Coracias indica*. The Burmese bird is rather larger than ours, and very much darker in the general tone of its plumage, although, curiously enough, the tail is lighter, not having the purple band at the tip which so well sets off that of the Indian bird. The young also of the Burmese Roller are different from their parents, being much lighter and duller. This species must be found near Calcutta, though I have never seen it even on the telegraph wires by the railway; but I have seen some more or less pure Burmese specimens brought in, fresh caught, for sale, and have successfully "meated them off," as bird-fanciers say, together with the common bird. For it is easy to get adult rollers to feed in confinement if you start them on cockroaches all—more or less—alive and kicking. Water they do not constantly requre, for they seldom appear to drink when they have the chance: in this total abstinence again resembling the kingfishers but unlike those birds they not only bathe, but wallow and shuffle in dust like a fowl when they want a clean-up.

It is curious that, being so easy to keep in confinement, the Indian Roller has so seldom been sent to England. Some time ago a well-known London fancier of birds obtained a very seedy specimen from a dealer, and more recently my friend Mr. E. W. Harper, of this city, succeeded in sending one to the London Zoo., where it is still, in good health. The curious thing was that, though tame enough in Calcutta, the bird became, for a time, very wild and nervous in London. But the very intelligent keeper, who had it in charge, told me that he had found the European Rollers, which he had had for some time in his care, also very timid, and the same thing was noted about this latter species (*Coracias garrula*) by Bechstein, in his work on cage birds, more than a century ago; so that possibly the peculiarity runs in the family. The European Roller, which also occurs in the extreme north-west of India, and comes to England frequently to get shot and "recorded," is a migratory species, with much more pale blue and less purple in its plumage than our "Blue-Jay." Curiously enough, it is sometimes called in German the "Birch-Jay," so that the superficial resemblance to the jay has struck Europeans independently in two distinct countries.

The Americans, however, do not seem to have been taken in, being no doubt too well acquainted with their own Blue-Jay (*Cyanocitta cristata*), which really is, in a literal sense, what its name proclaims it to be. There are no rollers in America, and when Brother Jonathan gets over the unreasonable horror of acclimatization with which his too successful experiment with Philip Sparrow has filled him, he cannot do better than set to work to supply the deficiency with a big consignment of our lovely Indian species: for the roller would not only be a great ornament to the prairies, but a very useful ally in grasshopper plagues.



GOLDEN-BACKED WOODPECKER.
(*Brachypternus aurantius*).
Reproduced by permission from "The Birds of Calcutta."

Post Mortem Reports.

(*Vide Rules*).

DIAMOND SPARROW, hen. (Mr. T. N. Wilson). This bird was too fat, and in addition had fatty degeneration of the liver, as a result of congestion of the organ.

CANARY, cock. (Mrs. Gorter). Pneumonia was the cause of death.

BUDGERIGAR, hen. (Mr. Horton). Inflammation of the egg passage with some hæmorrhage attending it was the cause of death. An egg had evidently been laid very recently and others were in different stages of development.

HAWFINCH, hen. (Mr. Howe). Had died suddenly. The liver was fatty and the spleen enlarged. There was no septic disease present, the immediate cause of death being apoplexy.

CANARY, hen. (Mr. Tweed). Pneumonia of both lungs was present.

GOULDIAN FINCH, cock. (Mr. Wilson). This bird, which was in its first feather, owed its death to concussion of the brain.

SAFFRON FINCH, hen. (Dr. Trechmann). In this case the bird was enormously fat. The internal organs were much congested. Apoplexy was the immediate cause of death.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

THE RED-BILLED CHOUGH.

From Mr. Sheridan I have the following interesting account:—

"Incubation begins in April. I have seen as many as fifty young birds feeding in flocks on the common by the seashore. This bird defies the most daring cragsman, as it builds its nest in the most crumbling parts of the cliffs, two or three feet in the cliffs, surrounded by tufts of sea pink. In winter these birds may be seen in pairs, but before nesting they collect in large flocks. The Golden Eagle and the Peregrine Falcon are the most inveterate enemies of the Chough. They are very plucky and help each other when attacked. I once saw a grand fight between a small flock and a Peregrine Falcon, the latter struck one of them and the others came to the rescue and were giving the Peregrine a good drubbing when a pair of Crows joined in. I wondered what the row was about and sorry enough I was, as it gave the Falcon a chance: the combatants being startled at my appearance, he took the opportunity and carried his victim away to the cliffs in triumph."

C. Castle-Sloane.

THE PURPLE-CAPPED LORY.

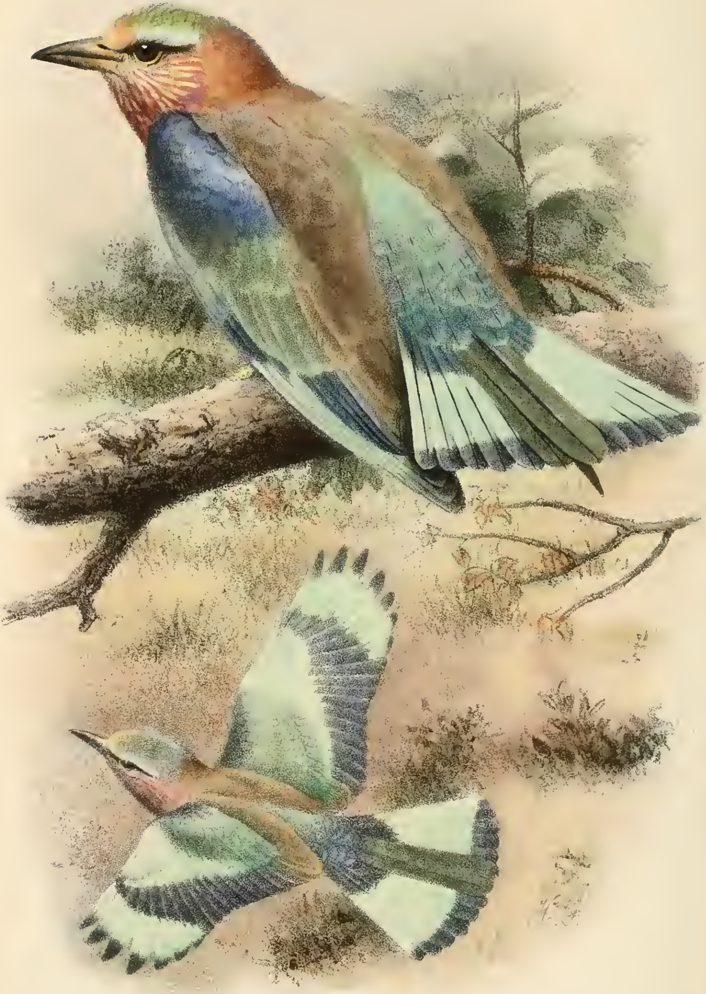
Sir,—In answer to Capt. Smithwick:—

Purple-capped Lories, like all other animals—including man—occasionally die in their sleep, but of course are not specially liable to this. When birds die on a perch they are obviously obliged to fall to the ground, but when they sleep or rest hanging to the roof wires of their cage, and die in that position, it is quite possible in some cases for the claws to remain hooked up even after death. The cause of death in this case is not noted: it is, therefore, impossible to speculate upon the liability of the bird to the particular disease, whatever it was, of which it died. These birds are much like other birds, or for that matter like men: some die sooner, some later.

There is, I believe, no distinctive mark between the sexes of this Lory, and as regards the imitative faculty of the Parrot tribe, this is not affected by the question of sex but by the individual intelligence of members of either sex. I have had gifted and stupid birds of both sexes.

I feel a good deal of sympathy with Captain Smithwick in losing his bird. One which adds to great natural beauty an appreciable amount of affection for man becomes much endeared to its owner.

W. Geo. Creswell.



A.S.Huth, imp

INDIAN ROLLER,
Coracias indica.

From living specimens.

The Indian Roller.

Coracias indica.

After the excellent account of this species which appeared in our last issue, from the pen of Mr. Finn, it is quite unnecessary to describe further the habits of the bird as observed in a state of nature.

Some misapprehension might, however, be caused by the phrase Mr. Finn used—" In fact, I was personally acquainted with only one wild specimen, who was generally to be seen on one of the furlong posts of the racecourse, just opposite the jail." This really refers only to Calcutta itself, as in India generally the Blue-Jay or Roller is a common bird, and one which Mr. Finn was well acquainted with, and not, as might be supposed, a species whose habits he had described from those of the solitary individual on the furlong post.

While making the studies for the plate which accompanies this note, I had an opportunity of seeing the three individuals now in the Western Aviary of the Zoological Gardens. All three birds objected to being stared at through a binocular, and the feelings of one quite overcame him, and he secreted himself so well that not until I had mounted one of the seats could I find him again.

They appear to greatly enjoy what little sunshine our climate affords, and while the sun was actually shining would sit on a ledge of the aviary and, turning their backs to the sun, would spread out their beautiful wings, and raise the feathers of their backs, so that the rays might warm the feathers to their bases—in fact taking a sun bath. I saw one of the birds thus spread out on the grass in the aviary, where it looked like some tropical butterfly.

The Rose Pastor.

By the Rev. C. D. Farrar.

We all have some small jealousy, I think: at least I trust I am not quite abnormal in this that I do like to see a Swallow, hear a Cuckoo and eat a strawberry, before anyone else each year, though this idiosyncracy of mine has not yet reached the point of writing to the papers.

For years I have been on the look out for a 'lady Shepherd,' but ever in vain until the present year of Grace. I should be afraid to say how many Rose Pastors I have had sent me, on the chance that I might pick out a hen from amongst them; on some occasions I have had as many as forty-five to pick from at once, but always with the same result, they were all males. At last my long waiting has been rewarded, for I have served for my Rachel almost as long as Jacob did for his.

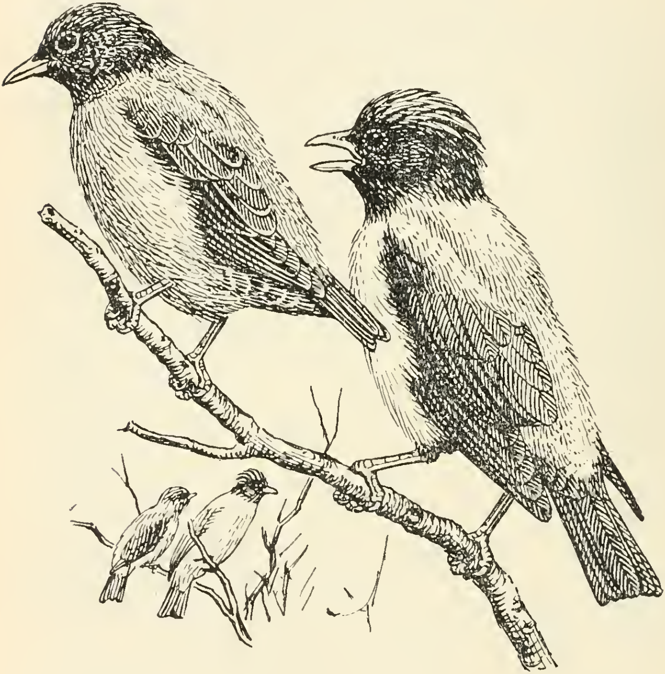
Last July I was up in London for ten days, and one morning I found myself in the historic 'Club Row,' now known by the grander-sounding title of Sclater Street, Shoreditch. If any of my readers have not yet visited that classic spot, let them lose no time in doing so the next time they are up in town: it is one of the sights of London. There, at the establishment of my old trusted friend Morris, I found my heart's desire. On the pavement were four cages, each containing a Rose Pastor. I may say, in passing, that a separate cage is a necessity, for Rose Pastors are as quarrelsome as the natives of Sumatra in the pepper harvest. I saw at a glance that three of the birds were cocks, but one was altogether different from any I had ever seen, and I hoped it might be a hen, and my friend Morris informed me that 'if it were not, then old Jim had never seen one.' I accordingly bought it on the spot, and later on I will describe the lady. I felt, as I walked away, as proud as a cock on a wall. I had a very fine cock Pastor at home, so I was full of hope for the future.

My cock knows he is handsome, and I believe that if he had a looking-glass handy he would always be using it. Much like a man I heard about one day, who happened to be the first arrival at a dinner party: on being shewn into the drawing-room and finding it, as he thought, empty, he soliloquised thus, in the presence of a young lady member of the family, hidden away in a recess. Going up to a large mirror over the mantlepiece, adjusting his tie and striking an attitude, he exclaimed, 'Not positively handsome, but confoundedly genteel.' My cock always seems to be saying the same, as he flicks his handsome wings and struts about the floor—'Not perhaps positively handsome, but decidedly genteel.' Whenever the cock alights on the ground, he keeps flicking his wings. Why he does so I do not know—'arrested mental development,' I suppose,—good way of explaining anything you do not understand in a bird's conduct.

I am never tired of watching my Pastors. 'Give you some birds,' said a friend one day in a bitter mood, 'and a wall to lean against, and you settle into an easefulness that would madden a saint.'

The cock reminds me of different people at different times. Just now, as I catch him on a topmost bough and looking down on me with his aloof superior air, he is oddly like a family butler, grown grey in service. At times, too, he seems to be like a Bishop of the decorous and persuasive order, but more often still he is the unique combination of the Bishop and the family butler which we are so rarely privileged to meet in daily life.

Rose Pastors are always 'nagging.' Any excuse will serve: a maggot eaten too swiftly, a wrong perch hopped upon, a scurrilous remark uttered and they are at it hammer and tongs, and, like the 'laidys dahn East,' the hens are the worst offenders.



ROSY PASTOR.

From morning till night my lady Pastor scolds her better half; 'but then,' as a man once said to me, 'you can get used to aught,' speaking anent a scolding wife; 'I just lets as if I don't hear what she says, as if she were a trickle of water, as you might say, that goes *bubble, bubble, bubble,* till you forget to listen to it.' And it is the same with my poor cock, he just takes no notice. He always allows her the last word. It is strangely pleasing to men, now and then, to let a woman enjoy the perquisite of this kind; one grants the last word to them, not for lack of repartee, but in the humane spirit that dictates the gift of a doll to a child or a bag of nuts to a squirrel!

They say that marriages are made in heaven—I conclude bird marriages as well. But how my Pastors ever came together puzzles me. I often think of what an old man I knew remarked of a married neighbour, who is a harassed worried-looking person. Someone spoke of marriages being made in heaven, and Job remarked that the idea 'allus bested him,' when he saw such a couple as Mr. and Mrs. So-and-so. But after a few moments thought his face brightened with a sudden idea—'Mayhap,' he said, 'the Almighty was lookin' t'other way!'

My Rose Pastors never sit together. If one happens to alight on the other's perch, there is such language used as is, as the papers say in Police Court proceedings, unfit for publication. They always remind me of the old man and woman who could not even worship together. The last time I had visited them they had frequented the same Bethel, but when next I called all was changed. I said to the old chap, 'Where's missus?' 'Why,' he said, 'she's in the next room.' 'What's she doing?' I said. 'Saying her prayers,' was the answer. 'Why,' I said, 'you always used to say them together!' 'Happen,' he answered, 'but now we can't hit it off at all; and so she says 'em there and I says 'em here.' That is about the position with my Rose Pastors and the perches.

They say you can always get a man through his stomach. That is how I won the affections of my hen Pastor; she loves not me, but *me dona ferentem*. When I appear at the window of her abode with mealworms, she watches me with the tragic air of a Cassandra. To note the varied expressions that flit across her face—hope, fear, desire, greed, expectancy,

—would make a Quaker laugh. As the mealworms diminish, so also does her love, and when they are done she quietly moves away to her favourite perch, and tries to look as if she had never met me before! Nothing will induce the cock to come near me; but all the time the hen is bolting dainty after dainty, he utters, what I can only suppose is a whole volley of swear words of the worst sort. It always sounds to me like a *volley* of *sacrès* uttered by a Frenchman in a rage!

To describe what a lady has on is generally more than the poor human male can manage. Still, in the case of my lady Pastor I must make the attempt.

In the first place she has none of the beautiful salmon pink of the cock; indeed she is pale coffee colour where he is pink, and dirtied as if a smutty hand had been laid on her back; the breast is dirty white. The black of the cock's head and wings is replaced by rusty brown. She has no crest to speak of and her wings and tail are finely laced with silvery white. Her head is also far more rounded than that of the cock. She never sings, but utters a call note almost identical with that of the hen Blue Robin. If you get two birds that sing at each other, be sure they are two *cocks*. Quarrelling does not count, for do not husbands and wives quarrel at times?

The feeding of Rose Pastors is not a difficult matter. Mine were being fed on canary seed when I got them. I should hesitate to recommend such a diet as conducive to length of life and good days; still it shows what a bird can live on. For staple diet I give mine soft mixture. They are very fond of bread and milk *made boiling*, but like all softbills, they must have some live food to keep them healthy. Nothing comes amiss: 'daddies,' bluebottles, maggots, mealworms, all alike are enjoyed, and the more the merrier. The line is drawn at earthworms.

They are very fond of bathing, but even that they cannot do without scolding—I suppose the water is too hot or too cold!

Next season, I live in hope, if all goes well, of being able to produce some baby Pastors; for in spite of bickerings, I believe my Pastors have a certain amount of mutual esteem—I will not use a stronger word—for each other, and I believe that, were Sir Francis Jeune to intervene with a decree *nisi*, it would cause very real sorrow. I will tell you why. One day, in the early hours of their union, so great was the quarrelling, that I took away the cock and put him into a neighbouring compartment. Would you believe it? that hen was just as miserable as is the wife of a drunken good-for-nothing husband who is sent to goal. Nothing would pacify her but to get him back, and then the fratching began as bad as ever!

Now I am tired, and I daresay my readers are, too, and I find that linen sheets look white and smell of lavender, and I long to lie between a pair of sheets that smell so.

NOTE BY THE EDITOR.

Mr. Farrar recommends a visit to "Club Row" or Sclater Street, Shoreditch. I know the locality well, and advise members who pay it a visit for the first time (especially if it be on a Sunday morning when the *al fresco* market is held) to leave valuables at home, and lady members not to go alone.

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S., etc.

(Continued from page 42.)

The following instance among smaller birds is only too familiar. A *Spermophila* (species not determined) was received from a well-known dealer. It was very dull in eye, rough in feather, and apparently voracious in appetite, though on being carefully watched it was seen to be only picking about amongst the food and eating scarcely anything. After a few hours it died. On examination the liver was congested and infiltrated with so called "tubercle." The spleen was enormously enlarged and thickly studded with the same. The intestines were dark in colour. The cheesy nodules were also present in the throat; the brain was very congested, and there was a ruptured vessel on its surface (apoplexy). No tubercle bacillus could be discovered, but the liver and spleen were crowded with the bacilli of Septicæmia.

One day I had sent to me for operation a Canary which was stated to have a large cancer of the neck. This tumour, which had been gradually increasing for three months—(the bird itself was not more than seven or eight months old)—was 1½ inch long, ¾ inch in its greatest diameter, and was rounded and pendulous, evidently a cyst of some sort. The bird was puffed out, yet very thin, panted for breath, with the beak open and the eye half closed, and had the vent feathers matted together with excrement. Since it was obviously not in a condition to successfully withstand the shock of an operation, it was killed with chloroform. The tumour proved to be a dual cyst, the lower one being completely encapsuled and containing a hard cheesy mass with a still harder and lighter coloured core. The upper portion was also encapsuled except as to where it sprung from the space bounded by the rami of the lower jaw. This portion contained a soft cheesy mass. To the naked eye this seemed to be ordinary sebaceous material, but treatment with ether and alcohol revealed no crystals of cholesterine, while staining a film with Gentian-violet shewed it to be composed of a dense mass of septic bacilli with here and there a very few white corpuscles. The liver was enormous and very congested, and the spleen was typical of an old attack of Septic Fever—about one inch long, uniformly enlarged, firm in consistency, rather pale in colour, and shewing the remains of the original nodules in a state of partial fatty degeneration. A few bacilli were found in it. In addition to the interest attaching to this case as shewing (1) the amount of resistance certain individuals can exhibit against the disease in its earlier and more virulent stages, and (2) the peculiar nature of the final development, it is worthy of note that, in spite of the pronounced and painful difficulty of breathing observed during life, there was nothing abnormal discoverable in the lungs, and no evidence of pressure on the trachea. As in many other cases of this disease the dyspnœa was the result of the toxins in the blood acting upon the nerves governing the function of respiration, in much the same way as in human diphtheria we find the blood poison affecting the nerves which control the action of the heart.

We consequently realize that the diagnoses of Asthma and Bronchitis repeated several times a week in the fancy papers on the strength of such an inconclusive symptom as shortness of breath is manifestly unjustifiable in a large proportion of cases, and that any hope of success from the favourite treatment with demulcents and expectorants is only too often but an *ignis fatuus*. Some of the advice we receive on this point borders indeed on the amusing. " For " the former (asthma) a few drops of glycerine stirred "into the drinking water every day for a fortnight is "the best remedy; but be careful not to overdo the "dose, or the result will be fatal (!!!): perhaps gum-"arabic dissolved in the water, though less effectual, "will be a safer medicine for the inexperienced to use." Perhaps indeed it would! Bread might also be a safer remedy than butter for cholera or broken legs. One parallel is as much worth our attention as the other. But, speaking seriously, it is really lamentable that these gentlemen, without the slightest doubt most excellent at their own businesses, should so persistently ignore that wise proverb—*ne sutor ultra crepidam*, and so constantly try to emulate the chimney sweep who posed as an authority on astronomy on the ground that he too looked at the heavens through a blackened tube.

For cheesy deposits to be found in the lung is somewhat rare: the following case will therefore be interesting. A Baltimore Oriole was bought by a member of the F.B.C. on Nov. 7, 1903, and placed in a cage in which a newly imported Tanager had died a week before, and which had only been merely washed out after the death. On the 21st it seemed very quiet in its manner, was observed to be soft in feather, and to pick over its food without really eating very much. It died in a fit on the 24th. On examination it was by no means emaciated, and therefore had been ill for only a very short time. The liver and spleen were greatly enlarged and thickly studded with miliary nodules, and both the lungs contained caseous masses, as did also the kidneys and mesentery. There were some small extravasations on the surface of the brain and in the air spaces of the skull bones. Microscopically there were no tubercle bacilli discoverable, but as beautifully illustrative specimens of the bacillus of Septicæmia I have none better than the slides prepared from the lungs and other organs of this bird. A careful consideration of all the facts and dates involved in this case makes it pretty conclusive that the Oriole was well when purchased. We are then led to speculate as to whether his life and his owner's money would not have been saved had the Tanager, his predecessor in the cage, been properly examined after its death.

Many more interesting examples could be given, as occurring in Blue Robins, Avadavats, Bengalees, Weavers, Tanagers, Wagtails, Wrens, Wrynecks, various Warblers, Cardinals, different Grassfinches, &c., &c.,—including even Raptorial birds. But space forbids, especially as a consideration of the disease in Parrots is of sufficient importance to demand a chapter to itself.

(To be continued).

Game-Birds at the Zoological Gardens.

AMONG the many interesting birds that are at present to be seen at the Gardens of the Zoological Society there are two groups which are represented in an unusual degree. These two groups are the Birds of Paradise on the one hand, and the Game-Birds on the other.

The Game-Birds are an unusually fine series, the Society having acquired several species early in February. Of these there is one species new to the collection, the Talisch Pheasant (*Phasianus talischensis*), from the South-Western shore of the Caspian Sea. This bird is of interest to British ornithologists as being closely allied to the true *Phasianus colchicus*, which was introduced into Britain many centuries ago, and which, after the introduction of the Chinese or Ring-necked Pheasant (*P. torquatus*) became known as the "Old English Pheasant."

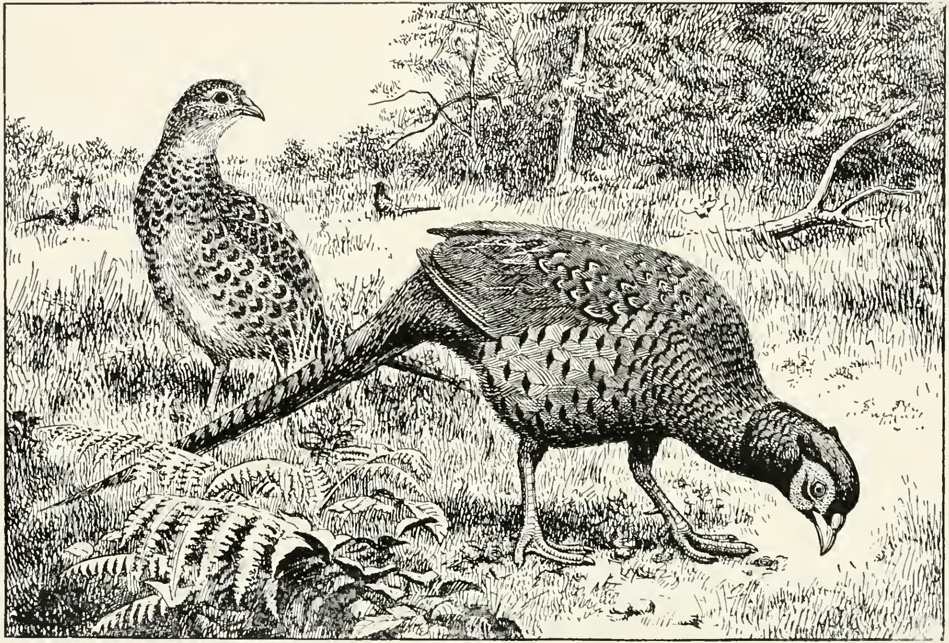
The Talisch Pheasant, which is regarded as a subspecies of the "Common" Pheasant, differs mainly in having a distinctly pinkish tinge on the breast and flanks, which can be readily seen in the living bird, when one compares it with the specimen of the Common Pheasant in the next compartment. The hen birds are practically the same in each case.

The so-called "Common" Pheasant in its wild and pure type is decidedly a rarity in this country, as nearly all the Pheasants of our coverts are cross-bred birds, and the Ring-necked type predominates; the pure bred birds being rarely imported.

The Mongolian Pheasant, one of the finest of the true Pheasants (genus *Phasianus*) is represented by a fine male. It is only of late years that this bird has been seen alive in Britain, the first the Zoological Society ever acquired had been sold to them as an ordinary Ring-necked Pheasant, and was thought to be such until Mr. Tegetmeier, one of our chief authorities on Pheasants, recognised it as this splendid species. It was in sorry condition when it came, with a broken tail, and a general woe-begone appearance, but, after the moult, it became a very handsome bird. I believe that the specimen at the Gardens now is the same individual.

The Ring-necked Pheasant, coming from China, is a smaller and much lighter-coloured bird than our Covert Pheasants, being almost straw-coloured on the flanks, and having conspicuous scarlet lobes on the face, and very noticeable ear-tufts.

The Japanese Pheasant (*P. versicolor*), one of the smallest of the Pheasants, is very distinct from the others, having a uniform metallic green breast and under surface. This bird has been introduced into Britain and has interbred with the others already acclimatised.



TALISCH PHEASANT.
(*Phasianus talischensis*).

DRAWN FROM LIFE.

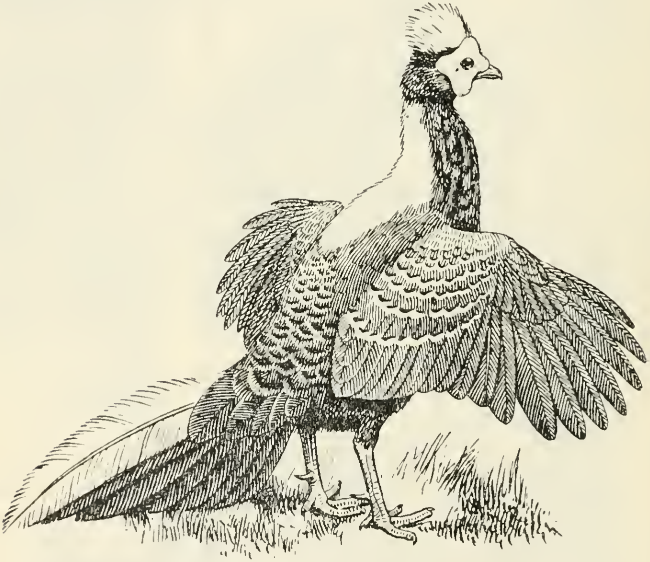
The splendid Sœmmerring's Pheasants (*P. sœmmerringi*) from the Japanese Islands of Hondo and Kiu-siu, one of the elaborately beautiful forms, is represented by a pair of birds.

The strikingly coloured Reeves's Pheasant (*P. reevesii*), the male of which sometimes grows a tail about 5 feet long, comes from China, and is the largest of the true Pheasants, the male reaching a total of 6ft. 6in. in length.

The Golden Pheasant (*Thaumalea picta*) of which the Zoological Society possess several examples, and the Amherst Pheasant (*T. amherstiæ*) are well known birds, the palm for beauty being generally given to the male of the latter species, as to most people's tastes the Golden Pheasant is too gaudy a bird. The Golden Pheasant is from Western and Southern China, and the Amherst Pheasant from Western China and Eastern Tibet, both species being birds of the mountains.

The Peacock Pheasant (*Polyplectron chinquis*) which belongs to a different group, has its home in Indo-China, and is at a distance a greyish mud-coloured bird, but on closer examination is shown to have very beautiful "ocelli" or eye spots on the feathers of the wings and tail. These ocelli are of metallic green and violet, or blue and purple, according as one may see them as the bird moves about. Like the Golden and Amherst and Reeves's Pheasants, this Peacock Pheasant is a bird of the Hills, and is found in bamboo jungle and in wooded ravines, though it ranges down to the plains as well.

The Siamese Pheasant (*Euplocamus prælatus*) is quite a different looking bird to an ordinary pheasant, and, by a casual observer, might be taken to be some extraordinary variety of fowl. In general shape and appearance it is midway between the pheasant and the fowl type, having the bare face patches of the pheasant with a more curved tail, and being more sober coloured than pheasants generally are. Its home is Siam and Cochin China. By ornithologists this species is placed amongst the "Fire Back" Pheasants on account of the metallic buff of the back of the male as seen when the wings are parted. The female is a brown bird.



SWINHOE'S PHEASANT.

Swinhoe's Pheasant (*Euplocamus swinhoii*) which by some authorities is placed in a different genus (*Gennæus*), an allied bird, is brighter in colour, showing (in the male) much of the metallic colour of the pheasants, having deep metallic blue, white and dark crimson bronze in its plumage. Here again the female is a very different coloured bird, being several shades of rather rich brown, black and buff.

Swinhoe's Kalij Pheasant, as it is sometimes called, is found in the forest-clad mountains of Formosa. The male bird may be observed in spring making absurd attitudes before the females, a thing many of the pheasant tribe do in the courting season.

The Silver Pheasant (*Gennæus nycthemerus*) a well known species, of which the Society possess a male and two females, comes from South China. Like so many other species of pheasants (including the "Common" Pheasant) the Silver Pheasant, though well known in captivity, is not a bird that has been observed to any great extent in a state of nature.

Of the beautifully marked Tragopans, the Zoological Society at present have two species, namely, "Temminck's" Tragopan (*Ceriornis temmincki*) and "Cabot's" Tragopan (*C. caboti*). Both these birds are remarkable rather for beautifully elaborated pattern than for brilliancy of colouring, though the males of both have bright colour in their plumage, besides that on their very curious brilliant throat lobes or "aprons" or gular flaps as they are variously called. In the "Temminck's" this gular flap is a brilliant deep blue with red spots on the outer edges and in the "Cabots" it is orange, marked with an emerald green band, but in both cases these colours are only seen when the gular flap is expanded, as it often is in the courting season. Unfortunately these birds are shy and retiring in confinement, and it is not often that one has the chance of seeing the courting display, though I myself have had an opportunity of seeing the "Temminck's" displaying. This bird has the upper surface beautifully marked with various shades of olive brown, with grey spots and black markings. The under surface is a rich reddish scarlet, with grey spots on each feather. The female is spotted with buff, reddish yellow, and brown, on a black ground. The lower parts being yellowish buff, with small black spots and whitish marks on the shafts of the flanks.

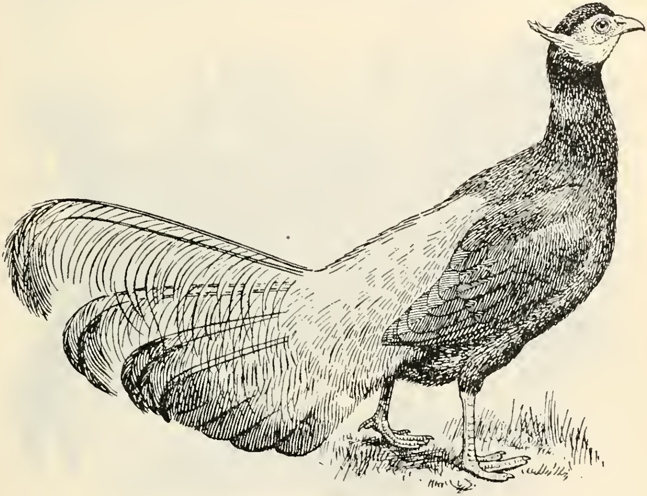
The home of Temminck's Tragopan is South-Western China. It is a bird of the mountains, being found at an elevation of about 10,000 feet and frequents forests or thick coverts, and being comparatively solitary in its habits.

The Cabot's Tragopan is a bird of much the same type, but the male is a sort of brick red above with buff spots on each feather, and black markings; the under surface being buff with red edges to the flank feathers. The female resembles that of Temminck's Tragopan, but is not so dark. This species comes from the mountains of South-Eastern China.

The Argus Pheasant *(Argus giganteus)* is probably known to most of our readers by name. At present there are two specimens in the Gardens, both obviously females, for they do not show the wonderful development of the wing and tail feathers so characteristic of the male birds. Apart from the size of the wing and tail feathers, the two sexes present much the same appearance. As the captive bird is not in the habit of displaying his wonderfully marked feathers when being watched, those who wish to study it closely should see the specimen set up in the Bird Gallery of the British Museum (Natural History Branch) where a specimen is mounted so as to show the feathers to advantage. The habitat of the Argus Pheasant in Siam, the Malay Peninsular, and Sumatra.

The Moonal Pheasant (*Lophophorus refulgens*) of which there is a good male specimen just now, and, I believe, also a female, is well known in captivity. The colouring of the male bird is probably the most intense, in its metallic brilliancy, of all the Pheasant tribe. This bird is seen to the best advantage in the sunlight, and as it moves about the splendid colours are reflected first from one part and then from another. These colours must be seen in a living specimen to be appreciated, and probably can only be appreciated fully by those fortunate people who have had the opportunity of seeing the male bird displaying before the soberly coloured female.

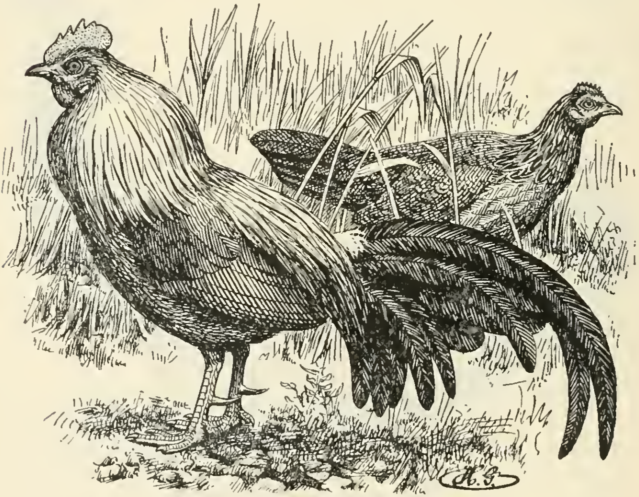
The Common Moonal is found in the forests of the Himalayas from Bhotan to Afghanistan, at elevations of from 7,000 to 12,000 feet.



MANCHURIAN CROSSOPTILON.

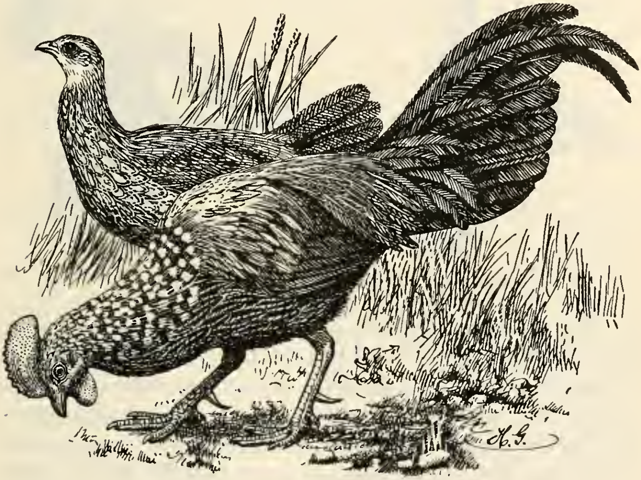
The Manchurian Eared-Pheasant, or Crossoptilon (*Crossoptilon manchuricum*) an extraordinary looking bird, with its white ear tufts sticking up on each side of its face as if they had been brushed into position, and its tail looking as if the feathers had been combed, is represented by three specimens, which appear to be a male and two females. The females are only different to the males in that they have no spurs. It is a soberly clad bird, in a black and white brown plumage, and inhabits the mountains of Manchuria and the neighbouring province of Pe-chi-li.

Of Jungle Fowl, the Society have now pairs of both the Indian species, the Bankiva or Red Jungle Fowl (*Gallus bankiva*) and the Sonnerat's or Grey Jungle Fowl (*G. sonnerati*). The Red Jungle Fowl is believed to be the species from which all our domestic breeds of poultry were derived, and it will be seen to bear a very close resemblance to the well-known "Black-red" Game Fowls. The carriage is slightly different, however, as the male does not carry his tail so high as the domestic fowl does, but otherwise there is but little difference beyond that the wild bird is smaller, being about midway in size between ordinary fowls and the "Bantam" breeds. It has a wide range, being found in Central and North-Eastern India, Siam, the Malay Peninsula, Java, Celebes, and the Phillipines, as well as other islands. Wherever it is met with it is a jungle bird.



BANKIVA OR RED JUNGLE FOWL.

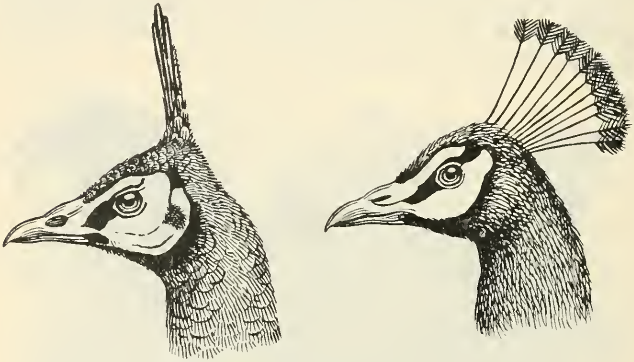
The Sonnerat's or Grey Jungle Fowl, the male of which has the very curious hackles, so dear to the heart of the salmon fisher, is a much less brightly coloured bird than the Bankiva Jungle Fowl, and is less conspicuous in consequence. The hackles have patches of horn-like substance on them, which, being brown or white on a black ground, give the neck a spotted appearance. The habitat of this species is Western, Central, and Southern India.



SONNERAT'S OR GREY JUNGLE FOWL.

Of Peafowl the Society have all the three known forms, including the Black-winged Peafowl (*Pava nigripennis*) which only differs from the Common Peafowl (*P. cristatus*) in having the scapulars and some of the wing feathers black, glossed with purple and green. The remaining form being the Burmese Peafowl (*P. muticus*). This last, if a less refined type of beauty than the Common Peafowl, is more quaint and "decorative," and as a species differs greatly from the Common and Black-winged Peafowl, as the sexes are nearly alike in colouring, the main difference being that the female has not the train.

The Common Peafowl is an Indian bird, the Burmese Peafowl being found not only in Burmah, but in Siam, Cochin China, the Malay Peninsula, and and Java.



BURMESE COMMON

HEADS OF PEAFOWL.

At present I believe the only species of Partridge the Society have to exhibit is the Greek Partridge (*Cacabis saxatilis*). Despite its name, this species is not by any means confined to Greece, but ranges westward through the Balkans, Carpathians, Appenines, Sicily, to the Pyrenees. It is a typical Red-legged Partridge, very similar to the species introduced into Britain under the name of "French Partridge," but is lighter and less richly coloured.

The last game bird that has been added to the collection is the "Mexican Quail" (*Callipepla squamata*) one of the Scaly Partridges, but though I hunted for these birds in the aviary in which they were said to have been placed, I failed to find them.

Since the above was written a male of the beautiful Prince of Wales's Pheasant (*Phasianus principalis*) has been added to the collection.

Bird Pictures at the Royal Academy.

By H. Goodchild, M.B.O.U.

This year at the "R. A." one has the unwonted pleasure of seeing pictures by three artists who are well known as painters of bird life. I had not been long in Gallery No. I. before I caught sight of a picture ("skied," of course) which I could recognise at a glance as being from the talented brush of Mr. G. E. Lodge, who, nearly twenty years ago, was well known to the readers of the then charming *English Illustrated Magazine* as the author, artist, and engraver, too, that contributed the delightful articles, "Bird Life in South Sweden," "Poachers, Feathered and Furred," etc.

As might be expected from an artist much of whose early life was spent in the now nearly lost (and must we say unappreciated?) art of wood engraving, the greatest qualities shewn are those of elaborate detail and finish. Here is no slap-dash work with a large brush, but a careful and almost severe rendering of a hillside amongst Norwegian mountains, with the half-invisible Ptarmigan scattered about amongst rocks and lichens. "Ptarmigan Ground: Norway" (No. 37) is the title. For intense realism and fidelity I should place Mr. Lodge foremost amongst the artists who devote themselves to bird painting, and am, therefore, glad that the public are this year privileged to see one of his pictures, even though they cannot see it sufficiently near to appreciate its truthful detail, and minute feather painting, for which Ptarmigan and other game birds offer such scope.

The second picture I noticed was Mr. J. W. Godward's "Flabellifera" (No. 252) which, although a figure subject, is worthy of notice for the perfect painting of the Peacock's feathers.

Sir Harry Johnston's picture ("skied," like Mr.

Lodge's), "A Congregation of Crowned Cranes," (No. 754) represents what one cannot but feel sure is a scene that the painter has witnessed many a time during his sojourn in Tropical Africa, although there is no particular incident in it. In its way, this artist's work gives me the impression of being no less real and accurate than Mr. Lodge's, though, apart from the evidently strict fidelity of both to what they see, the two artists' work is very dissimilar. Sir Harry Johnston, in such pictures as I have had the pleasure of seeing, always seems to aim at giving one an idea of the glare and clearness of the African day, with its grotesque or uncanny animal life, just as he saw it. Although this picture can only be seen from a distance, comparatively speaking, people who have good sight, or who are provided with glasses, can gather some idea of the thorough conscientiousness of drawing and painting shewn throughout it.

In the Water Colour Room, as usual, are several pictures wherein birds are the principal subjects. The first of these is called "On the Defensive," (No. 860) and is by Chas. H. C. Baldwyn. In this the chief merit is the soft and pleasing colour, which can be seen to the best advantage when one is some little distance—three or four yards—away. The arrangement of the "tones" is agreeable, and would, indeed, have well suited a subject of repose. Lapwings, or "Peewits" are the birds chosen, but as the most prominent bird is nearly facing the spectator, one cannot see what the bird is defending itself against, which is a pity, as some injury has evidently been already inflicted on the bird, the lower part of its beak being broken and bent out of position.

Near it is a large picture, "A Sun Bath: Oyster-catchers," (No. 866) by Frank Southgate.

Those who know Dutt's book on the Broadlands will be interested to see an original water-colour painting by Mr. Southgate, especially if, like myself, they here see one for the first time. The subject precludes the possibility of the artist showing his power of catching the "action" of a bird, in which he excels, as these birds are in repose on a sand-bank by the sea, their images being reflected in a tiny pool below them. The position in which this picture is placed gives one a better chance of studying it than one has in the case of either Sir Harry Johnston's or Mr. Lodge's pictures.

Miss Rose Stanton's picture, "Seagull's Nest, Ravenglass, Cumberland," (No. 895) is a conscientious and rather pleasing study, with a feeling of outdoor life and air shewn in it. The accessories are carefully drawn. The same artist's other picture, "The Home of the Goldfinch," (No. 1041) shews the same care and pains, particularly in the rendering of the textures of the materials of which the nest is composed.

No. 1047, "Little Bright-eyes," a careful painting of an Amazon Parrot, by Mrs. Ellen Frank, has the look of being painted direct from the living bird.

"Bluejackets," (No. 1007) by Miss Mildred A. Butler, is a little painting of two Peacocks, remarkable rather for the vigour of the water-colour style than for attention to detail.

Miss Blanche F. Hunter's little picture, "Slain by a Ruthless Hand," (No. 1055) is probably the most careful drawing, in respect of detail, and the prettiest both in sentiment and colour, in the room, and visitors who like pretty pictures of birds should make a point of seeing this one. It represents a Thrush, that has been killed and had its nest destroyed, and the eggs thrown on the ground beside the body of the bird, while behind is a background of roses.

The Use of Birds in Bionomical Experiments.

By F. Finn, B.A., F.Z.S., M.B.O.U.

[Reprinted, by permission, from the *Field* for April 29th, 1905, p. 725].

ALTHOUGH from the point of view of the bionomical experimenter birds possess one great drawback, in the fact that in most cases it is impossible to obtain more than one generation from them annually, they have sufficient recommendations to be more utilised by philosophical naturalists than is at present the case.

A public aviary might be stocked with useful scientific material and yet be made attractive, while the progeny reared from them may often be advantageously disposed of when they have served their purpose, thus reducing the cost of experiments.

Our British species are not, generally speaking, good breeders in captivity, or bionomically interesting, so that, although often very cheap, they are not always suitable for scientific use. I propose hereinafter to deal chiefly with some foreign species which are easily obtainable and maintained without difficulty. All will winter out of doors in a well-sheltered aviary without artificial heat, provided they are turned out when the spring is advanced enough to ensure genial weather.

The BUDGERIGAR or UNDULATED GRASS PARRAKEET (*Melopsittacus undulatus*) is an excellent bird for bionomical investigation. It is familiar to most people, even those not interested in aviculture, as being commonly employed as a "fortune-telling bird" in the streets. The type is barred yellow and black above, and grass green below, but a domestic variety is not now uncommon, in which the general plumage is yellow, with the markings faintly discernible. This is, however, still comparatively scarce and dear, most aviary-bred birds being typical. When the yellow form is crossed with the type the latter is dominant: intermediate forms apparently do not occur. A blue form has been bred on two occasions from yellow birds. The sexes of Budgerigars are always easy to distinguish in adult birds, the cock having a rich blue cere, and the hen a pale blue or brown one. They breed freely in aviaries, needing only a cocoa-nut husk or a box with a hole in it to nest in. Several pairs do better than one, but odd birds should be avoided. As many as half-a-dozen young may occur in a brood, and several broods may be reared in a season. They are easily fed, needing only millet, canary-seed, oats, and tufts of grass, although some soaked bread, squeezed dry, is of use when young are being reared. So easy is their propagation that many are bred for profit. Even adult males will often display great aptitude at imitating the songs of other birds, and hand-reared ones can be taught to talk. The Budgerigar is peculiarly suitable for Mendelian experiments, owing to its few and definite variations. Selection might be attempted with a view to improving the bird's imitative powers, and would be profitable if successful. If the blue form occurred, its cultivation would pay well, as even that of the yellow form does.

The price of typical Budgerigars varies, according to season, from 4s. 6d. to about 10s. 6d. per pair; the yellow form costs from 16s. per pair upwards.

The COCKATIEL or COCKATOO PARRAKEET (*Calopsittacus novæ-hollandiæ*) is an elegantly-shaped crested grey bird about the size of a missel-thrush, with a white patch on the wing and an orange spot on the cheeks. The male has the head yellow and lateral tail feathers black, while in the female there is hardly any yellow on the head and the lateral tail feathers are barred yellow and black.

The Cockatiel breeds freely in captivity, but does not exhibit any noticeable variation. It should be treated like the Budgerigar, allowance being made for its larger size, and it will live amicably with that species. Hand-reared males will learn to talk. The Cockatiel might be employed in sexual selection experiments: a bird with the crest clipped or the white wing-patch stained grey being submitted to a strange hen together with another male with plumage intact. In such cases three compartments are necessary, separated by wire partitions, the female being placed in the centre one. This is, of course, to obviate fighting between the males. The female's preference may be easily demonstrated by placing perches in such a position that she can sit close to whichever male she prefers. The necessity for contant observation may be done away with by placing a board below these perches, in which case the accumulation of droppings beneath the favoured perch will furnish satisfactory circumstantial evidence. Selection might be profitably attempted to bring out the talking powers of this species.

Cockatiels cost 12s. 6d. a pair or upwards.

The DOMESTIC TURTLE-DOVE (*Turtur risorius*) is a species of apparently ancient domestication, which nevertheless has given but few varietal forms The type (which closely corresponds to the wild *Turtur roseogriseus*) is pale fawn or cream color with a black half collar on the nape, and there is also a white form, usually without a collar. The sexes are alike. When the fawn and white forms are crossed the inheritance is usually alternative, (*i.e.* the young entirely resemble one parent or the other) the colour of the male being commonly dominant. I have, however, seen in India an intermediate form which appears, sometimes at all events, to result from the cross. These doves live on small grain and seed, a little bread and green food being desirable additions. They breed very freely indeed, nesting in small open boxes or baskets, which they line with twigs, etc. Two eggs are laid, and several broods are raised in a season. In a large aviary several pairs may be kept, and they are harmless to other birds, though quarrelsome with each other in a small space. They would be very suitable for Mendelian experiments, owing to their cheapness, but they are not very saleable. They hybridize freely with other forms of Turtle-Doves, of which the British turtle-dove is most easily obtainable. The hybrids are sometimes at all events fertile, and, taken altogether, the Turtle-Doves are the best birds for the study of hybridism.

The price of the fawn variety is about 2s. a pair, and of the white about twice as much.

The JAVA SPARROW (*Munia oryzivora*) is a stoutly-made finch of about the size of the House-Sparrow. The type has beautiful lavender-grey plumage, with a black and white head and rose-pink bill. This is the wild form commonly imported; but there is also obtainable a domestic race of Japanese origin, which is pure white or pied, still retaining the pink bill. There is no noticeable sex-difference. When the two colour-forms are crossed the inheritance appears not to be alternative.

The Java Sparrow should be fed like the Budgerigar, and given similar nesting accommodation. It breeds well if hens of the domestic race are provided, but needs some food prepared with egg when rearing young. Several pairs may be kept together, and associated with Budgerigars, as, being strong-billed birds they can defend themselves against these. The combination has a singularly pretty effect in an aviary. The colour variations of this bird need to be worked out experimentally. The white form has a different song from the type, and is superior in this respect.

It would be interesting to see to what extent, if at all, this superiority in song is inherited by grey birds with white blood in their parentage, and if it gives them an advantage in sexual selection. The white form is profitable to breed, but not the grey, as it is very cheap.

Grey birds cost from 1s. 6d. to 5s. per pair, and white about 10s. 6d., the price of pied ones being intermediate.

The BENGALEE (*Uroloncha acuticauda*) is a small finch about the size of a Wren. The type, which is seldom imported, is dark brown, but pied, cinnamon, cinnamon-and-white, and pure white forms of domestic Japanese stock are imported, the cinnamon-and-white being the commonest. There is no sex difference. This bird should be treated like the Java Sparrow, allowing for its smaller size, but not associated with that bird nor with Parrakeets. It will, however, do well along with Doves and Canaries. It breeds well. Its breeding needs study to determine the inheritance of the colours. The fixing of the pure white form would be profitable, and it would be of interest to note if the females had any preference for any particular colour.

Bengalees cost about 5s. a pair, the white form being dearest.

The CANARY (*Serinus canaria*) is, as everybody knows, normally streaky olive-green in colour. Even when bred indiscriminately, however, several varieties occur: pale yellow (buff), bright yellow (jonque), and cinnamon, besides pied forms. The inheritance appears to be alternative when buff and jonque or cinnamon and green are crossed, but not when the yellow forms are crossed with the darker. There is no noticeable sex-difference in plumage. Canaries can be bred very freely and easily in aviaries, and if the yellow forms are used the progeny is always saleable at a profit. They need canary and other small seeds, and food prepared with egg when feeding young. They hybridize with several British finches, the Goldfinch being chiefly used to mate with them, but the hybrids are, usually at all events, sterile. It is the great desire of hybrid-breeders to obtain hen Canaries which, when paired to a Goldfinch, will produce a yellow hybrid, such hybrids being very rare and valuable, though dark ones are easily bred. Of course, what is wanted is prepotence in the the hens, and by careful breeding on Mendelian lines such birds might be obtained. It this were done the profit from the sale of these and their hybrids would be very large. As Goldfinches will breed in captivity some attempt might be made to produce a "muling strain" from them also. They need much the same treatment as Canaries, and will live with them. The song of the cock Canary is known to have great influence over the hens, and experiments might be systematically conducted on this point. Common mongrel Canaries of no particular breed are best for bionomical purposes, and of these cocks cost about 5s. and hens about half as much.

The COMMON GREENFINCH is the easiest British finch to breed, and is very cheap, almost valueless in fact. Fanciers, however, distinguish between a "buff" and "jonque" form of bird (these terms, denoting intensity of colour, applying to dark as well as yellow birds): the inheritance of these wild variations and their sexually selective value should be investigated. Greenfinches should be treated like Canaries, but not kept with them, but rather with Budgerigars and Java Sparrows, as they are strong and rather vicious birds. Greenfinches ought not to cost more than 6d. each.

The HOUSE-SPARROW sometimes produces white, cinnamon, and pied forms, and these should be experimentally investigated. The bird will breed in captivity, and should be kept with and treated like the Greenfinch. The varieties above alluded to are of course only obtainable by chance, and no fixed value can be set on them.

The PEKIN ROBIN (*Liothrix luteus*) is a Robin-like insectivorous bird of great beauty, olive green above and yellow below, with orange streaked wings and a red bill. The male is more brightly colored than the female, but is best distinguished by its song, which is very pretty. This species lives well in an aviary, although it seldom breeds there; it is very gentle, but should not be associated with breeding small birds, as it is apt to eat their eggs. It needs a constant supply of egg-food and fruit. It is extremely lively and intelligent, and always attracts notice. It is a most suitable bird for experiments on intelligence and warning colours and mimicry, and would also do better than any other species for sexual selection experiments. As there is much individual variation in the species, its colours would not need artificially altering for this purpose.

Pekin Robins cost in the early year about 3s. 6d. for males and 1s. 6d. for females, but prices soon rise later in the season. It would thus be well to get in a stock early, experiment with them, and then sell them off, which, as they live well, would result in some small profit.

The GOLDEN PHEASANT (*Chrysolophus pictus*) is easily kept and bred in aviaries, being treated much like a Bantam fowl. Several hens can be run with one cock, and the progeny can be sold for about 10s.6d. each in their first season. The cocks will fetch more if kept until they assume their full color in the second year.

This species produces exceedingly beautiful hybrids with the Amherst Pheasant, and these are fertile, so that the forms are good ones for hybridisation experiments. As the gold colour of pure Golden Pheasant cocks varies much in intensity, the species could be readily used for sexual selection experiments. Golden Pheasants cost about 30s. a pair, Amherst Pheasants about twice as much. The cheapest way to get them would be to buy eggs and rear the young.

The MANDARIN DUCK would be only suitable for a very large aviary, but does well with the run of a garden, only needing a small pond. The extreme beauty of the drake, whose wing-fans and varied coloration are quite unique, makes the bird very popular, and if the birds can be got to breed well they are very profitable. The Mandarin would be a good subject for sexual selection experiments, as the females show great discrimination, and the drake's plumage could easily be trimmed to produce differences. Mandarin Ducks cost from 30s. a pair upwards. They are very hardy birds and always saleable. For awaking public interest in birds, this species is second to none, as it is not only very handsome but more interesting in habits than most ducks, while, like the duck tribe in general, if allowed a good run and a pond, it needs no attention beyond a supply of corn, and can be allowed liberty in a flower garden with little risk of damage.

The PHEASANT (*Phasianus colchicus* × *P. torquatus*). The common pheasant of coverts is now-a-days a mongrel form resulting from the alliance of two geographical races or subspecies. As it is bred in such large numbers for sport, experiments might be made with it on a large scale; at any rate the eggs and young are always saleable. White, pied, and pallid ("Bohemian") forms occur, and their colour inheritance could be studied. The white, when crossed with the type, appears to be usually recessive, inheritance being alternative. Pheasants are best kept in large pens, and treated much like fowls as regards food.

GEESE may be white or pied as well as the normal grey of the wild *Anser ferus*. When the grey and and white colours are crossed inheritance is not alternative, though it appears to be so in the case of the rare silver-grey variety. The Grey Goose produces fertile hybrids with the very distinct Chinese Goose (the domesticated form of the *Cygnopsis cygnoides* of Eastern Asia), and these hybrids should be bred from and their peculiarities systematically noted. Such hybrid geese would be just as useful as pure bred ones, and thus important scientific results might be got from profitable birds. Given a pond and a grass range, geese require less attention than any other domestic animals.

For the construction of an aviary only wood, half-inch mesh wire netting, and roofing felt are required. The building should face south if possible, and should have the ends of wood, the front only being wired. The minimum height and depth should be six feet. The foundations should be so secured with wire as to prevent the ingress of rats. The inside, if the aviary is more than six feet long, should be divided by moveable wire partitions, the number being regulated by circumstances. An outdoor compartment, wire-netting roofed and laid down with grass, is a desirable but not absolutely necessary addition: it can be made as an extension of the front or of one end. Cost will depend to some extent on local conditions, and cannot be exactly stated. It should not, however, come to much more than 10s. per foot of frontage, and if small aviaries are needed, these can be bought quite cheaply.

Post Mortem Reports.

(*Vide Rules*).

PEKIN ROBIN, hen. (Mr. Howe). Congestion of the liver was very marked, but there was no septic disease. These birds are somewhat gluttonous, and the diet of hemp seed upon which this one had been fed was certainly not the best thing for it. Equal quantities of dried flies, ants' eggs, and unsweetened biscuit, slightly moistened with water, is the best food for them. In addition they may have access to canary or millet seed.

PARSON FINCH, GOULDIAN FINCH, and LONG-TAILED GRASS-FINCH. (Mr. Tanner). These three birds all shewed the usual signs of septic enteritis, and two of them also had slight pneumonia in connection with it.

WOODLARK. (The Hon. M. C. Hawke). Enteritis was the cause of death. In answer to queries:—my Virginian Cardinal eats the soft food mentioned above (under heading of Pekin Robin) in addition to his seeds. I should strongly recommend the discontinuance of the egg food. The aviary arrangements mentioned seem very good. I am of opinion that the site of the pheasantry should be changed, so as to get an entirely fresh soil surface. For egg binding, give one drop of chlorodyne in the beak with a camel hair brush, smear the vent with a paste composed of nearly equal parts of extract of belladonna and glycerine, afterwards applying *hot* fomentations to the same part for perhaps 10 or 15 minutes. Then wrap the bird up in warm flannel and put in a warm place. This is Dr. Clarke's old remedy and is very effectual in giving relief. The proposed cross between the Pekin and the Blue Robin is chimerical.

GOULDIAN FINCH. (Madame Gorter). Apoplexy was the cause of death.

GOULDIAN FINCH. (Mr. Chaplin). This bird died of pneumonia and enteritis. Its illness was not due to eating wet chickweed. The person who first started that now popular mare's nest ought to have been a little better informed as to his science. The Bachelor in Arcady—who ought to rejoice with exceeding great joy that one of Moliere's celebrated *dicta* is only honoured in the breach—tells us that theories are absurd. This one certainly is. *Verbum sat sapienti.*

BULLFINCH. (Mr. Cattle). This hen was approaching breeding condition. The liver was the seat of fatty degeneration in places, following on chronic congestion, but pneumonia was the immediate cause of death. Without knowing that the Gouldians actually died of pneumonia it is impossible to say that they communicated the disease.

QUAKER PARRAKEET. (Mrs. Mortimer). This bird had chronic congestion of the liver, with catarrh of the bowel (enteritis) as the final disease.

CANARY. (Miss Busteed). Egg binding was the cause of death.

CANARY. (Mr. Ide). The oviduct was much inflamed and contained a soft egg in the lower portion.

CANARY. (Mr. Tweed). Efforts at expulsion had ruptured a thin shelled egg in the lower part of the oviduct. Hence death from shock and exhaustion.

GOULDIAN FINCH. (Mrs. Marshall). This bird, which had been only a week in its owner's possession, died of septic enteritis.

Short Notes, and Letters to the Editor.

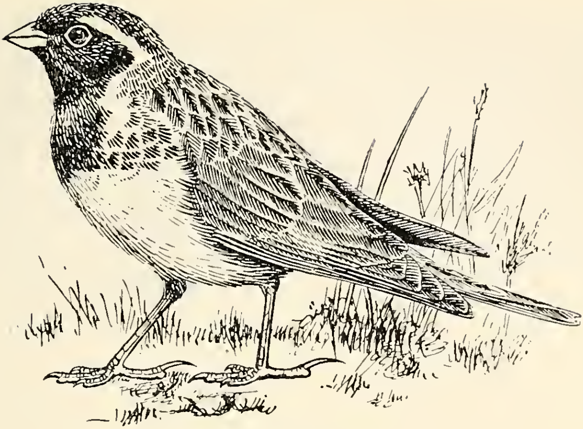
THE NEW *v.* THE OLD METHOD AT THE ZOO.

SIR,—Here is an extract from the recently issued *Report of the Zoological Society* for 1904:—"The Parrots and Parrakeets in the New Canal Bank Aviary have proved a great "delight to visitors, and there has been a striking decrease in "the rate of mortality of those kept, even throughout the "winter, in the open aviary as compared with those in the "heated Parrot House."

Here is another from *The Hygiene of Bird Keeping:*— ". . . while the 'experience' of the old school does not "stand the test of scientific investigation, *that which science "teaches to be right does bear the test of practical experience.*"

Could there be a better commentary the one upon the other than the above quotations?

W. GEO. CRESWELL.



LAPLAND BUNTING.

BEARDED TITS.

SIR,—In the March number of *Bird Notes* you have an article on Bearded Tits by the Rev. C. D. Farrar, and all he says I can endorse, as I have had a pair that I got more than twelve months ago. I have watched them very closely, as they are in an aviary with Goldfinches, Linnets, &c. I do not give them very much insect food—about twice a week—and very few mealworms. The seed that they have is canary, German rape, hemp, and teasle. They are the picture of health; they seem now to be making an effort to do some building, and they do not molest any of the other birds.

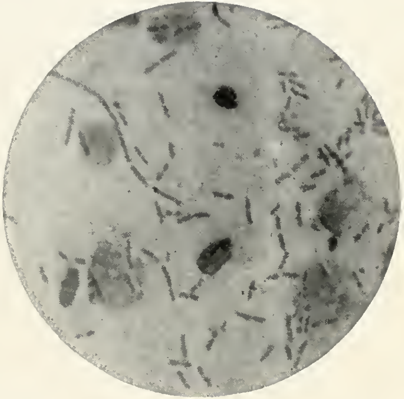
The aviary they are in is 8 ft. by 3 ft. 6 in. and 8 ft. high, and has a stream of water running through. They are very fond of a bit of fat ham or bacon, and are very active. They are as little trouble as any bird I have. The seed is given in separate hoppers, and they will get inside and scratch like a hen.

W. H. FOSTER.

THE PURPLE-CAPPED LORY.

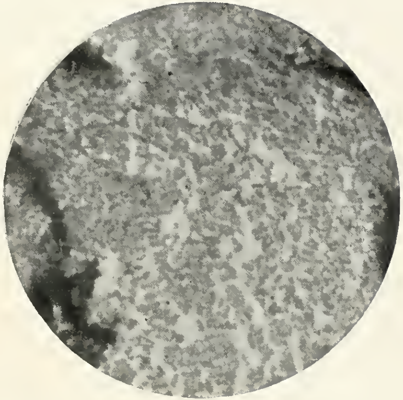
SIR,—I do not understand Captain Smithwick's query as to the cause of the death of his Lory to refer to the fact of its dying in its sleep, as Dr. Creswell seems to understand it, but rather to the fact of its death being sudden. If I am correct in this, I may perhaps inform Captain Smithwick that Lories are undoubtedly peculiarly liable to sudden death in captivity, unless they are carefully fed. Captain Smithwick says that "there are few things my Lory would not eat, and in large quantities," and in view of that confession I am not surprised at its early death. I should advise him to read what I wrote on the subject of the feeding of Lories in Vol. III. page 136, and if he will feed his next Lory in accordance with the instructions there given, the risk of its premature and sudden death will be greatly reduced.*

HORATIO R. FILLMER.



No. 1.—Septic Bacteria in Blood of Parrot.

X 1000.



No. 2.—Culture of the same in Gelatine, shewing the Ovoid Outline.

X 1000.

Micro-photographs by the late SIR EVERETT MILLAIS, Bart.]

[Reproduced by permission of Dr. R H. CLARKE

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S., etc.

(Continued from page 59.)

The various members of the order Psittaci (and especially the African forms as circumstances present them to us) are among the birds most susceptible to Septicæmia, if indeed they are not the most susceptible. And just as we have seen in other birds, they exhibit the disease in progressive stages. This might be considered a superfluous remark on my part but for the fact that, owing to the importance attaching to these birds on account of their size and beauty, their heavy price, and their high mortality during and after importation, the earlier and later stages have come to be seriously regarded as two different diseases. This has to be sure more casually occurred in the case of our Canaries and other birds, where the initial stages are often thought to be simple enteritis and the final ones invariably tuberculosis: but the exceptional circumstances attending the Parrots have led more than one writer to specially designate the early stage by the names of Ship Fever and Psittacosis—neither term by the way being particularly happy. Neither of them is at all scientific; in other words they give no clue to the real nature of the disease. Septicæmia does not depend on the fact of the sufferer being merely on shipboard; and the word Psittacosis conveys nothing more to the mind than that either the Parrot itself is the disease (a parallel being found in the term Pediculosis), or else that *a* Parrot has *a* disease. It is intensely loose and misleading, and might with equal philological inaccuracy be imitated by "Leporosis" or "Fringillosis" in the case of either a rabbit or a finch being affected with either Septicæmia or any other disease.

In a previous chapter allusion has been made to the enormous number of Parrots annually imported into this country—80,000 by one man alone!—and to the inversely infrequent occurrence of the birds in our houses in consequence of the inordinate death rate from "Parrot Fever" or "Ship Fever." It follows therefore that of those which survive their landing and sale a large proportion dies after an interval of weeks or months in that final stage of the disease which has been erroneously ascribed to tuberculosis. This ending is indeed so common that at least one writer, whose pathological work in this direction of some years ago is of sufficiently high order to command attention up to a certain point, has considered the Parrot as not only highly susceptible to human tuberculosis, but also as best presenting the type from which to consider the disease as presumably affecting birds.

In a very interesting letter which Dr. W. T. Greene kindly sent me in 1903 there is so good a description of the acute stage of the disease that I can do no better than reproduce it. He says:—"the symptoms "are very marked; the bird is dull, listless, and "sleepy; its feet feel very hot to the hand, and no "doubt the general temperature is raised, but it is im-"possible to ascertain this exactly as the subjects are "for the most part wild and resent handling. The "appetite fails, a discharge appears from the nostrils, "diarrhœa sets in, and death supervenes in less than "a week from the onset of the acute symptoms. In "some instances death occurs much earlier, though I "am inclined to think in such cases the malady was "contracted during the voyage. The *post mortem* "appearances are extreme congestion of the liver, and "hæmorrhage into the brain or between the meninges. "It is a frightfully infectious disease, so that a cage in "which a parrot has succumbed becomes a focus of "infection. The disease is endemic in certain shops, "stores, or emporia, to which these poor parrots are "conveyed in this country, and apparently in Africa "and the Canary Islands too. There is no known "remedy." He also says that he believes it to be generated by insanitary surroundings. This is a conclusion with which no one can quarrel, but I am not in agreement with an opinion I have seen expressed both by him and others that the Amazons are not affected by it, and that only the African species are susceptible. Neither the environment of the South American forests and the West Indian islands nor the avian habits of life in those regions differ so much from the parallel conditions in Africa as to have conduced to the establishment of any special racial immunity through the agency of continuous elimination of the unfit. Were the birds of the New World imported through the same channels in equal numbers with those from the Old, and therefore under the same insalutary conditions of treatment from the moment of their capture onwards, we should soon see an equal mortality from the same disease in the visitors from both Continents.

Vast numbers of African birds, both adult and immature, are trapped by the natives for export, the young ones being easily taken by hand when they first leave the nest. Overcrowded in wicker cages while still in the trappers' hands, subjected on the voyage to every discomfort associated with filth, and therefore obliged to eat and drink under the foulest conditions, it is no wonder the majority of the poor creatures succumb, either during the voyage or soon after landing, to a disease produced and fostered by an environment to which their race has hitherto been a stranger. In their case the weeding out of those individuals whose reaction is imperfect takes place under our own eyes, and we are consequently enabled to recognize their susceptibility to the disease. But if it be true, and I am informed it is, (and we know that Macaws for instance are always tame on arrival), that the South American birds which come over are either those which represent the hardier survivals of the process of rearing at the hands or rather the mouths of the country people, or else the survivors of a probationary period in the insanitary establishments of the exporters living in civilized centres, then it is easy to see that the main part of the elimination of the weakly has taken place long before we have any every day chance of determining the extent of their susceptibility or immunity. But that they are susceptible is certain, because I have dissected several American specimens which had died of Septicæmia. I have also frequently found the same disease in Australian species.

As an appropriate supplement to Dr. Greene's graphic picture of the leading manifestations of "Parrot Fever," (which he elsewhere mentions under the more philosophical name of Septic Fever), I will here give a short extract from a letter received by my friend Dr. Clarke in 1895 from the late Sir Everett Millais, who devoted considerable attention to the investigation of the disease. The specimens he mentions were photo-micrographs, two of which I here reproduce (by permission). ". . . . I venture to send "you three specimens of Ship Fever in Parrots and "one taken from a Canary. The two stained by "Methyl Blue are respectively a blood preparation "(No. 1) in which only the nucleus of the red cor-"puscles and the bacillus is seen. In this specimen "you will observe the various characters which the "bacillus assumes, viz., as a simple bacillus, generally "as of a form closely related to a diplococcus (Davaine's "bipolar bacillus. *W.G.C.*), and finally as a strepto-"coccus. No. 2 is a pure cultivation of the same in "gelatine, it appears as an ovoid bacillus; in broth it "appears as No. 1 . . . . . from what I have observed "the characters of both Canary Plague and Parrot "Ship Fever are identical. . . ."

In this conclusion Sir E. Millais was perfectly right. The photographs and the pathological details furnished by him, combined with the clinical phenomena so well described by Dr. Greene, coincide exactly with my own independent observations.

(*To be continued*).

An Ornithologist in the Deer Forests.

By H. Goodchild, M.B.O.U.

During three summers spent in the Highlands of Scotland I had the opportunity of much wandering in the remote mountain hunting grounds so well known under the name of Deer Forests. It may not be commonly known that it is the exception, rather than the rule, for a "Deer Forest" to have any forest, in the ordinary sense of the word, on it at all.

Both in work and on pleasure, sketching and trout fishing, I was most of my time on forest ground, and got to know the nature of the forests better than does the visitor who drives through the country on a coach, or who stays at one of the quiet inns, even if he can find the time and opportunity to climb any of these mountains with unpronounceable Gaelic names.

The nature of the ground composing a forest varies considerably, even in a given area like Wester Ross, which is generally considered to be the home of the deer, and therefore the most characteristic, as far as scenery and country go, of all Scotland.

In central Ross Shire there are large moorlands, which, even if given over to the deer, would not retain them as do the steeper grounds, especially if there be good "corries" or hollows, wherein the deer may conceal themselves, in the latter. I had wandered considerably in forest ground, and formed my own impressions of its nature and characteristics, before I compared notes with friends whose occupations took them into these regions, and I found that their impressions and feelings were the same as mine—that the first characteristic of a deer forest, if you go into it alone and wander about all day, is the *absolute desolation*. Commonly you do not see the deer—they may see you, or more likely get your scent and be off—and birds may be conspicuous by their absence. I used to go fishing in the sanctuary of a well-known forest in south-western Ross Shire; and never once when I went there alone, did I see a deer or a bird of any kind. The only living creatures I saw were the dog that accompanied me, the trout I caught, and the midges that came and bit me. Nevertheless, I saw much of interest at one time and another, and as our members may care to hear about it I have recorded some of my observations.

The first forest I got to know well, was that of Coulin, in Wester Ross, and this forest was one of the exceptions, inasmuch as it had some actual old Caledonian Forest left on it. Caledonian Forest appears to have been composed principally of Scotch Firs, but at the sides of the lochs that are so numerous in the Highlands, the firs were replaced by birch wood. Here at Coulin were both fir and birch, and in the latter numerous Cuckoos were to be heard. Nowhere in England, much less in Scotland, have I found Cuckoos so common, and why they should be common in a comparatively small patch of woodland, set amidst frowning mountains, I cannot make out, for there was no other woodland for miles around; and the small birds, excepting the Pipit, on which the Cuckoo is ordinarily parasitic, were not to be seen.

In the tract of country between Coulin and Loch Maree, on the north, are some of the most precipitous mountains of Ross Shire, and there numerous Golden Eagles find a congenial home. This noble bird has benefited not a little by the increase of land devoted to deer, and sportsmen may even find it advantageous to have Eagles about, while one cannot wonder at proprietors being proud to show the eyries to their friends or point out the birds themselves, sailing about over the skyline or hunting over the high moorlands. The ordinary food of Eagles in a deer forest are the Blue Hares, or Mountain Hares as they are commonly called, and the Ptarmigan, both remnants of our Alpine fauna. Grouse also, where they occur in the forest ground, or conveniently near it, may contribute to the Eagles' larder, and it is in these matters that the bird of prey renders a service to the sportsman.

When a deer stalker has decided on the stag he wishes to shoot, a thing he may do a mile away, he has to find out as far as he can that no other animals are in the way of his stalk, as if they are, and he does not know it, they may give the alarm and the sportsman may not get within half a mile of his quarry. Deer, other than those he wants, are easily seen, but not so the game birds, which are gifted with remarkable powers of concealment, and will lie close till the sportsman is within gunshot and then rise with a whirr of wings, and an indignant note of alarm, to let the deer and everything else within hearing know of the presence of the intruder. Thus it is that the Eagles, or any other predaceous animals, are rather welcome than otherwise, as they help to keep down birds that in a deer forest are out of place. Where moorlands occur amidst the mountains, and the deer keep to their own ground, and the Grouse to theirs, the latter are as welcome as their four-footed neighbours. This happy state of affairs existed at Coulin, where, right opposite the fringe of birch wood that sheltered the Cuckoos, itself at the foot of the sanctuary of the forest, there stretches away for miles and miles a plateau of moorland which, although within sight of snow that lasted till July, fairly teemed with Grouse, and was only separated from the actual forest by a narrow neck of Loch Coulin such as deer could swim in a few minutes.

Without doubt the most characteristic bird of the deer forest is the Ptarmigan. Of all birds to be found there, none are so absolutely confined to the mountains as this most Alpine of our avifauna. Alone of British birds, the Ptarmigan finds it necessary to don a white winter dress. This means that it is only found in situations where snow lasts several months of the year, and where the ground is completely covered for several weeks in the depth of winter.

Although showers are likely to occur on mountains of 3,000 ft. or more in September, by October snow has come to stay, and by the middle of November, which is the latest time at which I have seen the Highlands, the veil of snow is down to about 1,500 ft., and lies several feet deep on the tops, driving down the wild life of all kinds, unless indeed the Eagles care to take their exercise by soaring over the snow-capped "Beinns." Ptarmigan have to come down to the lower edge of the snow shroud, and their natural enemy the Eagle comes too.

At the time when the ordinary visitor sees the Highlands, *i.e.*, in the autumn, all the natural denizens of the forest are at their best and strongest, the hills are clear of snow, and one has to climb to an elevation of about 2,500 ft. to see these birds, and as the area at or above 2,000 ft. is small, and the Ptarmigan common, one can be fairly sure of seeing them, which is a thing to be thankful for, as one cannot be sure of seeing any of the other life of the forest. It is more than likely that one may only catch a glimpse of the white wings as a covey dashes out from amongst grey rocks and grey lichens, and sails away round a shoulder or across a corrie to a place of safety.

Buzzards and Ravens, particularly common in some localities, and almost entirely absent from others, one may see soaring gracefully over the rocks and crags of the lower slopes of the mountains, though they are rare in the secluded parts. For reasons I could never make out entirely to my satisfaction, while I found these two birds common round the edges of a forest near the cultivated ground, I never saw them in the remote and desolate fastnesses where one would naturally expect to find such thoroughly wild birds; in fact I never saw them at all when far in the forest.

In days gone by, many a loch in the Highlands was tenanted by a pair of Ospreys ; now, one may almost say that the bird is extinct as a breeding species, and last year I was informed by an eminent ornithologist living in Scotland, that the Osprey had nowhere succeeded in rearing its young. A solitary bird is said to be left at one of the former haunts in Western Inverness, but the well known locality of Loch-an-Eilean is now no more the site of an eyrie. Whether the bird will ever re-establish itself in Scotland to gladden the eyes of the true naturalist is doubtful, as even when all is done that can be done to preserve the birds, they are molested by the would-be possessors of " British-taken " eggs or " British-killed " specimens.

There still remains the rare Black-throated Diver, a well-known species, extremely shy and wary in a state of nature, and breeding only on remote and elevated lochs. This species I have seen at comparatively close range, having come on it suddenly from behind a promontory in a secluded loch in

Wester Ross. This bird always places its nest, if such it can be called, close down to the water's edge, so that the parent bird can slide off the nest into the water.

In the far north and north-west may be met the Grey Lag Goose, breeding amongst the heather by a loch side and, like the Black-throated Diver, only found in remote places.

Where forest ground comes down to the sea, as it often does on the West Coast, Grey Crows and Herons may be seen in considerable numbers, both frequenting the rocks and the foreshore in search of their food; the former taking toll of such eggs as they can find on the lower slopes of the mountains, the latter supplementing their meals on the foreshore by such fish as they can catch in the innumerable "burns" of the forest.

Many years ago, when the Sea Eagle was the commonest eagle we had in Britain, individuals would be found far away from their native precipices, foraging for themselves on ground more naturally the home of the Golden Eagle; but now this fine species, like its relative the Osprey, is on the verge of extinction, and as matters ornithological now look, will soon not be seen in deer forests or anywhere else in Britain. There are probably not six pairs left in Britain now, though I doubt not that ground which is now forest land, was formerly the scene of the depredations of the Erne or White-tailed Eagle, as it is also called.

The last and smallest of the birds characteristic in any way of forest land, is the Snow Bunting. This bird, although so well known as a winter visitor to Britain, is very little known as a resident, despite the fact of its having been seen in the Highlands in summer time long before the nest was discovered. The actual discovery was made by some of the Geological Surveyors, and has been recorded by Mr. Harvie-Brown. Very few pairs remain in Britain, and then only on the highest mountains of Scotland, a fact that entitles it to a place in this brief account. The known localities in which the Snow Bunting is resident are very few, and I have never met with it, even on the ptarmigan ground, though in the Lowlands of Scotland, about Edinburgh, I have seen large flocks.

Although the regions given over to the deer are desolate and depressing in their solitude, they exercise a charm on a sensitive mind, especially that of a naturalist. One gets used to the loneliness of these mountain fastnesses, where the silence may be broken only by the crow of Grouse or Ptarmigan, the sweet plaintive whistle of the Snow Bunting, or the wild cry of the Buzzard or Golden Eagle, and when once one has learnt to love the forests and their natural inhabitants, one longs to return to them again.

A Peculiarity of the Vasa Parrot.

By W. T. Greene, M.A., M.D., F.Z.S.

The Vasa Parrots, genus *Coracopsis*, form an important section of the sub-family *Psittacinæ* of the family *Psittacidæ*, remarkable chiefly for some peculiarities connected with the reproductive organs which render these otherwise charming birds decidedly objectionable as pets in confinement. The subject is not one that readily lends itself to discussion in the pages of a popular periodical like "Bird Notes," but the deviation from the form and habits general in the class *Aves* is so great as to render some allusion to it not only interesting but necessary, especially as the writer has never seen it noticed by any ornithologist with whose writings he is acquainted.

The *Anatidæ* and the *Struthionidæ* present some analogy with the genus *Coracopsis* in this respect, but with these exceptions there are no birds known to the present writer possessed of the same peculiarity, which, as might have been expected, is confined to the males.

There are four species of Vasa Parrots known, namely, the Greater and Lesser Vasas, the Praslin and the Comorin Parrots: the two first are natives of Madagascar, and the latter two of the islands of which they respectively bear the names. The Comorin Parrot is exceedingly rare, so much so that no specimen of it has so far been seen in the menagerie of the London Zoological Society. The three other Vasas are clad in dingy black and have greyish-white mandibles, but the Comorin has a brown bill and its plumage is enlivened with metallic reflections; it is about the same size as the Lesser Vasa, which equals that of a rather small Grey Parrot.

It would be very interesting to learn if any other readers of this magazine have noticed the sexual peculiarities referred to above, but which cannot, for obvious reasons be more explicitly alluded to in these pages.

The Vasas generally are excellent whistlers and mimics, but poor talkers, but they become, though naturally timid, very tame and familiar in confinement, and would make most delightful pets but for the reason mentioned. They are hardy and long-lived too, and one of the Greater Vasas lived for no less than fifty-three years in the Parrot House at the Zoo., and that in the days when parrots of all descriptions were believed never to drink, and were, consequently, never allowed any fluid wherewith to quench their thirst, so that they might often be seen eating their own droppings for the sake of the moisture.

The Wild Canary.

By W. Geo. Creswell, M.D., F.Z.S.

At first sight it would seem only natural to suppose that a fair proportion of the many thousands of fanciers and others, who are more or less conversant with Canaries in their present highly evolved forms, would be quite familiar with the original wild stock from which their favourites have been derived. But such is not the case; there is hardly a bird living about which so much confusion exists in the minds of the great mass of bird keepers. And not only is it difficult to find a fancier who is able to recognize a wild Canary when he sees it; fewer still can be found able to give anything like a description of it off hand beyond perhaps a vague and scarcely correct statement that it is a "green bird."

Many indeed of those who think they are competent to do both prove to be much mistaken when put to the test. For instance, a certain dealer who from his very extensive operations ought to have known something of the matter, once sold me a pair of St. Helena Seedeaters, and in so many words described them as the original Wild Canary. Shortly afterwards another dealer who was more especially in the way of the African trade, and who therefore should have been still less likely to be mistaken, advertized a bird under the same title. On my sending for it he forwarded a bird with which I found I was totally unacquainted, and which was afterwards identified for me by one of the officials at the Natural History Museum as the Meadow Saffron Finch (*Sycalis arvensis*) from South America, a continent on which no Serin at all is found. A short time afterwards I answered an advertisement emanating from another dealing quarter and received yet again a pair of these birds, about which by the way little can be said, except that both in manners and song they are perhaps the most disagreeable creatures one can get hold of in return for one's hard-earned money. Further instances of disappointment having dogged my footsteps when on buying bent need not be given: suffice it to say that out of about thirty such correspondents I have met with only two that either had the bird I wanted or really knew anything about it—and one of these two was not indeed a vendor.

At one of the Palace Shows I saw not long ago an undersized ordinary dark bird with one or two buff primary quills in the wing. It was in the Any Other Variety class, and the catalogue gave it a special description as being a genuine wild bird which had been taken from the nest at Las Palmas. And this is not by any means the only "wild" canary I have seen from the same source. Over and over again in the houses of returned soldiers have I had proudly shewn to me a common little buff German Canary—generally a hen—which had been foisted on the credulous owner as the real and identical Simon Pure by some rascally bum-boatman at this port of call.

When we turn to printed matter the same haziness meets us in too many directions, though the earlier writers, in spite of the meagreness of their descriptions, appear to be the most accurate, in so far as unlike some of the moderns they do seem to have had the real ancestral form in their mind's eye. As an instance of the prevailing confusion, a book written some few years ago by a clergyman gives us a very indifferent coloured plate of what, if it is like anything at all, is least unlike the *Serinus flaviventris*, and labels it as the origin of our domestic pet. More recently still a writer has laid it down that the name of Wild Canary belongs to the Grey-necked Serin (*S. canicollis*) or "Cape Canary," and goes on to say in definite terms that this bird was the original parent of the Canary as we know it. This same gentleman, unfortunately like many more of our would be instructors in biological matters, seems rather confused in his ideas, for having fixed the parentage as above on a bird indigenous to the southern peninsula of the African Continent, he mixes truth with error by going on to say that the natural habitat of the Wild Canary is Madeira, the Canaries, the Azores, and the Cape Verd islands, a scattered group lying about 4000 miles away to the north-west and where the *Serinus canicollis* is not known as an inhabitant. He of course gives us the old story of the wreck, and here again makes a curious mistake. This antique chestnut—whether it is worthy of credence or not—was intended to convey to our minds that a vessel coming from the Canary isles, and carrying a consignment of the native birds, was wrecked off Leghorn in Italy, whither it was bound, and that through this accident the birds thus liberated, (how and why?), got a settlement on the isles of the Mediterranean, notably in Elba, or Ilva as it was then called, and thence became *domesticated in Europe* by the intervention of the bird-catcher of the period. But our commentator throws a new light on this story by telling us that the Canary is *naturalised in St. Helena* with descendants of birds which escaped from the wreck at Leghorn and sought refuge on this island! thenceforth becoming part of its avifauna. A glance at the relative positions on the map of all the places named sets us wondering what on earth these poor birds, just escaped from the perils of storm and wreck, could see in a perfectly strange island 5000 miles away sufficiently attractive to make them set aside the more manifest advantages of Elba ready to hand, or even those of their native home about midway between the two! *

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* The *Serinus flaviventris*, really a South African species, is naturalized in St. Helena, where I am told it is sometimes called the "Emperor."

Why such extraordinary confusion should exist is hard to imagine. Gesner writing in 1585, Aldrovandus in 1610, and Willoughby's posthumous *History of Birds* published in 1667, all mention the Canary, and give a more or less detailed account of it. For instance, Willoughby distinctly connects the bird's name with its original habitat, and correctly notes the sexual differences as minutely as does the Catalogue of the British Museum. Albin, Brisson, and Buffon follow up in the 18th century with a complete appreciation of the descent of the domesticated form from the feral stock of the Canary Isles, and Adamson in his *Voyage du Senegal* says that "the Canary Serin, which becomes quite white in France, is in Teneriffe of nearly as deep a grey (*sic*) as the Linnet." Hervieux, who was the superintendent of the poultry yards and aviaries of the then Duchesse de Berri, when enumerating in 1709 the 29 varieties then known in cage life, starts off with the "common grey canary" and then goes through the whole scale of buffs, yellows, whites, agates, &c. In addition to the above mentioned, Turner, a still earlier author, alludes in 1544 to birds "which the English call Canaries," while about the same time the poet Gascoigne speaks of "Canara Byrds" in his *Complaint of Philomene.*

No mention is any where made of the bird shewing any green in its coloration. On the contrary, while Buffon alludes to its evidently close relationship to the Serin Finch, he speaks of the latter as being green and yellow, but always calls the Canary grey. What was meant to be conveyed by the word grey can be divined from Adamson's comparison with the Linnet.

(*To be continued*).

Post Mortem Reports.

(*Vide Rules*).

CANARY. (Mr. Tweed). Death was due to egg-binding.

CANARY. (Mrs. MacAdam). This hen had laid a small clutch of eggs, deserted her nest, and died. It was supposed that she too had died in consequence of some lesion connected with ovulation, but death was due to fatty degeneration of the liver with congestion of the spleen, and to an acute attack of pneumonia. The owner was surprised to hear of the fatty liver, since its food had been of the plainest. While it is quite possible for such a condition to follow a long course of gluttony on even plain food, yet in this case it is highly probable that the condition was due to high feeding at the hands of the person from whom it was bought. The fatty degeneration was no new thing, but had followed on a chronic congestion of some standing.

CANARY NESTLINGS, three. (Mr. Tweed). In course of being "reared by hand on boiled rice, oatmeal, and masticated egg and bread." The two elder birds, about three weeks old, had died of septic enteritis. In the case of the youngest one (one week old) there was apparently some mistake and the wrong bird had been inadvertently sent, because its crop and stomach contained only rape seed which had evidently been shelled by its parents. It was moreover rather too decomposed for any accurate diagnosis to be made as to the cause of death.

CORDON BLEU. (Mrs. Curtis). An old bird, the primaries and secondaries being almost white. It had been very correctly fed on millet, grass, aphides, and "ant eggs." Its death was due to pneumonia and enteritis.

"PECTORALIS" FINCH. (Miss Hopkinson). This bird, bought a week before, died of pneumonia.

GOLD-BREASTED WAXBILLS, (2), and CORDON BLEU. (The Lady Dunleath). These birds, together with seven others, died within a day or two of their purchase from a London dealer, from whose shop they were taken over to Ireland (with every care) by a personal friend of her ladyship. All three died of septic enteritis.

CORDON BLEU. (Miss Hopkinson). Brought from West Africa about five weeks before its death, which occurred after apparently only a few hours illness. A considerable extent of pneumonia was present in both lungs.

W. GEO. CRESWELL.

Short Notes, and Letters to the Editor.

Mr. FINN AND EGG-FOOD.

SIR,—I note that in the course of his interesting article Mr. Finn tells us that Java Sparrows, Canaries, and Pekin Robins "need" egg food, the first two when breeding, the last always.

As an aviculturist who has kept birds practically the whole of the time between 1858 or 1859 and the present date; who has kept them during the greater part of that long period under all sorts of conditions in deference to advice and opinions of every hue; and who therefore has had as much experience as most people both of egg and no-egg systems;—I cannot help saying that Mr. Finn is mistaken when he uses the word "need."

As a student of physiological biology I know there is no *need* of this food. As a student of pathology I know even more—that the use of this food is as harmful to birds as is emery and steel dust to the Sheffield grinders, or the draper's occupation to those engaged in it. Now how can a thing which is (pathologically) harmful be (physiologically) needful? It would seem to be a logical absurdity.

But if any of us are of those who "pretend to be superior "to all theory, to despise recent investigations of almost every "kind, and to take observation as their only guide," let us see what observation tells us. Java Sparrows have been bred in cages from time immemorial in China and Japan. Mr. Finn himself and Mr. Heselton both tell me the inhabitants of these countries never by any chance use egg food for their birds. Facts therefore say that these birds do not need egg when breeding. With regard to Canaries and their hybrids:—out of all which I possess there is but one which has ever seen it. There are also other members of the F.B.C. who have the same experience. If then these birds needed egg when breeding how is it that the specimens I allude to are in existence? It would be right to say they needed—oxygen for instance, because if it is withheld they die; but if you withhold egg they do not die, nor do they suffer, so where is the need in this case?

As to Pekin Robins—facts again shew that egg is not needed for insectivorous birds: Mr. Fillmer has had something to say on this subject in Vol. III. of *Bird Notes*, page 43, and at page 2 *et seq.* of the same volume this particular matter is dealt with at some length by myself. My own Pekins never get egg.

The sickness and death rate has declined in my aviaries since I abolished the use of egg. I want to see both my friends and my enemies reap the same advantages; those who have followed my example have already done so.

W. Geo. Creswell.

Sir,—As a member of the Magazine Committee I incur some measure of responsibility for what appears in *Bird Notes*, and on that ground I venture to send you a short comment on the remarks in Mr. Finn's paper which Dr. Creswell has criticised. I hold nothing to be more pernicious than narrow and arbitrary dogmatism, and welcome the freest discussion, and greatest liberty of opinion on all questions which are open to dispute; but I am no less opposed to stereotyped ignorance, and blind reiteration of error. These defects have been more than sufficiently represented in popular avian journals, and I have always supposed that the principal, and much-needed purpose of *Bird Notes* was to represent the rational, scientific, and progressive side of ornithology. In that conviction I feel bound to support Dr. Creswell's objection to Mr. Finn's unqualified assertion that Java Sparrows, Canaries, and Pekin Robins need egg. The subject of egg feeding has been fully discussed in *Bird Notes*, and no impartial and intelligent student of the question can doubt that the use of egg is attended with risk. As regards its necessity a number of facts have been adduced which appear to directly disprove it. They have not been answered, and until they are, the conclusion which unprejudiced readers will draw must be that the alleged necessity is "not proven." By all means let anyone who thinks otherwise bring forward facts in support of his belief, but until this is done, having regard to the facts and arguments which have been published, it does not appear to me consistent with the position we desire for *Bird Notes*, that reactionary and dogmatic assertions like Mr. Finn's should be published without facts and arguments to support them.

R. H. Clarke,

Sir,—I was surprised to see such a definite statement on the part of Mr. Finn as to the necessity of egg-food for Java Sparrows, Canaries, and Pekin Robins.

Years ago in an outdoor aviary I bred ordinary Blue Javas without taking any special care of them. I know that these birds never had any egg food.

Again, with regard to Canaries. I have just returned from a visit to Kingston-on-Thames, where I saw in two of Dr. Creswell's aviaries, wholly devoted to Canary breeding, a number of this year's birds in all stages of growth. These birds are being reared solely on a diet of seed, green-food and occasionally a little bread and a few ants' eggs. On this food they are fat and in perfect condition. As are also his soft-bills, which he keeps on a food absolutely free from egg or oil.

The above facts answer the question as to the necessity of egg—at any rate to my satisfaction.

EMILIUS HOPKINSON.

SIR,—After all that has appeared in *Bird Notes* on the "egg" question, it is both surprising and disappointing to find, in an elaborate article in our Magazine, the old and exploded fallacies of the eggists paraded as if they were universally accepted truths.

Mr. Finn states that the Java Sparrow "needs some food prepared with egg when rearing young." That Canaries "need food prepared with egg when feeding young." That the Pekin Robin "needs a constant supply of egg food and fruit." Now, Mr. Finn has either read Dr. Creswell's contributions to the egg question which have appeared in *Bird Notes* and elsewhere, or he has not. If he has not read them, he is, for a prominent aviculturist, strangely ignorant of recent investigations into bird food, and his remarks on the subject are unworthy of serious consideration, or of a place in our Magazine. On the other hand, if he has read them (as is probably the case), he has chosen to deliberately ignore them, and to publish, in the Magazine in which they appeared, *ex cathedra* statements as to the *necessity* of a thing which Dr. Creswell and others have shown to be harmful and unnecessary —and the bad taste of this course needs no comment.

If Mr. Finn, after carefully reading what has appeared upon the egg question in this Magazine, is still of opinion that egg is necessary, he is, of course, entitled to that opinion, and any arguments which he brings forward upon the subject will, I am sure, be read with interest by the other side. But he is not entitled to coolly put aside the anti-egg case as if it did not exist, and his doing so *in the pages of Bird Notes* looks very like an affront upon some of his colleagues.

Birds, other than domestic Poultry and Pigeons, have great and obvious disadvantages when used for bionomical experiments—and I can scarcely think that they will ever be so used, to any considerable extent. I prefer, however, to leave that question to abler hands than mine, and will not trespass further upon your space except to point out a few of Mr. Finn's incidental inaccuracies.

Mr. Finn has apparently decided to his own satisfaction that the Bengalese is descended from one of the species of *Uroloncha*. This may be, and in all probability is, the case—but I believe that no definite proof of it has yet been given. But he has apparently mixed up *U. acuticauda* with *U. striata*, for *U. acuticauda* can scarcely be called "dark brown," while *U. striata* is properly so described. The names of the two species are quite commonly reversed by bird-dealers, but it is odd that a professional ornithologist like Mr. Finn should fall a victim to this confusion.

It is most misleading to say that Goldfinches "need much the same treatment as Canaries." Every hybrid breeder knows how his difficulties are increased by the contrary being the fact. It is difficult to keep Goldfinches in health for long without such a liberal use of hemp or other oily seeds as is apt to upset the livers of Canaries kept in the same cage.

HORATIO R. FILLMER.

IS EGG NEEDFUL?

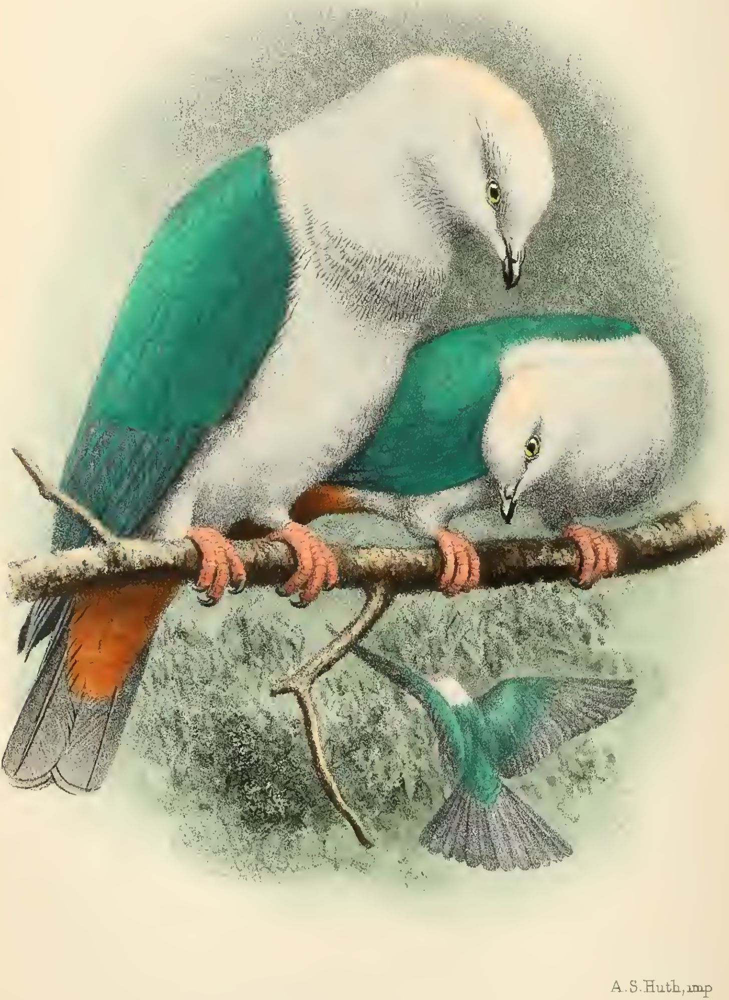
SIR,—Having just come into possession of a fine male Greenfinch-Canary hybrid, the gift of Dr. Creswell, who bred it in his aviary the year before last, I take this to be a favourable opportunity of showing what can be produced in the way of excellence without the use of egg-food, a form of diet which in my opinion ought to be invariably abstained from in the breeding and rearing of birds. It cannot be too strongly deprecated, since it has been clearly shown by medical men, who have studied the matter in the most impartial manner, that egg food forms an ever ready nidus for those septic germs which are so common a cause of avian mortality. And it is not only an ever ready nidus for the germs but it has also been proved beyond dispute by Drs. Klein, Clarke, and Creswell, to have a peculiar effect on these germs in the way of intensifying their virulence. This hybrid, which I am fortunate enough to possess, has never seen or tasted egg in any form, and was bred from an ordinary English Greenfinch (which has been in the Doctor's possession for about six or seven years) and a little yellow Yorkshire hen picked up by chance in a hairdresser's shop. He is one of the finest specimens I have ever seen both in size, build, and colour, this latter being specially brilliant and even. One of our best known judges and authorities on the points of these birds, when writing to the press one day last year, considered him good enough to praise.

Considering the difficulties experienced by many who breed birds, and who lose many of their young ones from simply the use of egg food alone, it seems curious that they still adhere to doctrines derived from traditional and unscientific sources, and so persistently refuse to accept and to use methods which have been proved to be scientifically correct. Such conservatism would seem to be out of place among civilized people in the twentieth century. J. E. R. McDonagh.

The Daily Telegraph of May 25th, contains the following paragraph from its special correspondent in Paris:

" 'Eggs may be poisonous, even before they are laid' is the cheerful statement made by Professor Metchnikoff, of the Pasteur Institute, in the witness-box. The whites may contain disease-breeding microbes. These, when heated, survive in a vegetating state up to 60 deg. Centigrade, or 140 deg. Fahrenheit Consequently a raw or even partly-cooked egg, however fresh, may always be poisonous owing to the possible presence of lively bacilli in the white, and contained therein from the very beginning. The professor's evidence was given in a case before the First Chamber, in which a pastrycook is being sued by twenty-five persons who had been made very ill by eating some of his cream tarts, and by the heirs of a twenty-sixth, who died of it. Official experts, supported by M. Metchnikoff, stated at the first hearing of the case that it was utterly impossible ever to make sure that whipped cream containing white of egg unboiled shall be innocuous, however fresh the egg, for the above reason."

The above paragraph is highly interesting to bird keepers as shewing how strong is the affinity between egg—even fresh—and various bacilli of the septic group. We commend its careful consideration to the various experts of the Fancy papers.—Ed.



A.S.Huth, imp

BLUE-TAILED FRUIT PIGEON.
Carpophaga concinna.

From living specimens

The Blue-tailed Fruit-Pigeon.

(*Carpophaga concinna*).

By H. Goodchild, M.B.O.U.

AMONGST the many fine species of Pigeons now to be seen at the Zoological Gardens, probably the finest is the Blue-tailed Fruit-Pigeon (*Carpophaga concinna*). These fine birds, like the others of the same genus that are to be seen in the Gardens, seem to take kindly to captivity and to be none the worse for being transported from luxuriant islands in the tropical seas to dull and comparatively cold regions such as they are now in. Within the last few years, four species of Fruit-Pigeons have come to the Gardens, and all four are still to be seen there, though they are not all together.

To the great naturalist A. R. Wallace belongs the credit of having discovered the Blue-tailed Fruit-Pigeon, and it was he who gave it the name of *Carpophaga concinna*, by which it is generally known. In his delightful "Malay Archipelago" Wallace thus describes the discovery of these birds in the Ké Islands. "The most trodden path from the beach led us into a shady hollow, where the trees were of immense height and the undergrowth scanty. From the summits of these trees came at intervals a deep booming sound, which at first puzzled us, but which we soon found to proceed from some large Pigeons. My boys shot at them, and after one or two misses, brought one down. It was a magnificent bird twenty inches long, of a bluish white colour, with the back, wings, and tail, intense metallic green, with golden, blue, and violet reflections, the feet coral red, and the eyes golden yellow. It is a rare species, which I have named *Carpophaga concinna*, and is found only in a few small islands, where, however, it abounds. It is the same species which in the island of Banda is called the

Nutmeg-Pigeon, from its habit of devouring the fruits, the seed or nutmeg being thrown up entire and uninjured. Though these Pigeons have a narrow beak, yet their jaws and throat are so extensible that they can swallow fruits of very large size. I had before shot a species much smaller than this one, which had a number of hard globular palm-fruits in its crop, each more than an inch in diameter."

Writing in the "Ibis" in 1865, the same author says: "This species has a remarkably loud, hoarse, booming note, like the roar of a wild beast. It is the largest and handsomest of the genus. It is very closely allied to *Carpophaga chalybura* (Bonaparte), but, if his description and figure are to be relied upon, is quite distinct. The British Museum specimen is of this species, and probably came from the island of Mindanao."

Since Wallace wrote, his own specimens have come into the possession of the British Museum, which now also has examples from the Moluccas, Aru Islands, Ké Doulan, Matabello, Dammar. I., Banda Sea, Teminbar Island, and Sanghir Island.

Wallace also says ("Malay Archipelago") that it "inhabits Ké, Banda, Matabello, and Goram, and is replaced by a distinct species, *Carpophaga neglecta*, in Ceram."

Specimens of this bird were obtained by the collectors on H.M.S. "Challenger"; and in his report on the collections of birds, Count Salvadori, writing in the Proceedings of the Zoological Society for 1878, p. 89, quotes the observations on the birds brought in:—"Eyes between orange and coral-red; the stomach in all contained fruit and seeds; legs coral-red; bill black. There were a great many of these Nutmeg Pigeons shot, enough for lunch for the whole ward-room. They were very good eating. J.M." One cannot wonder at the concluding statement, as one would naturally suppose that these birds which live on fruit would prove palatable.

The two birds now at the Zoological Gardens do not seem to give the deep booming note described by Wallace, the notes they commonly use being a rather muffled sound, and a by no means Pigeon-like noise, which is much more of a croak than a coo. Mr. T. H. Newman has kindly furnished the following notes relating to the courting of these birds. "I have heard the pair now at the Zoological Gardens frequently utter a hoarse grunting note, either when perched alone or when sparring together. This note was produced by both birds, only in the cock it was louder and harsher. I was amused to watch the cock paying his attentions to the hen; he would puff out his neck, and lowering his head would utter a *hoo-hoo-hoo*, bowing each time. The notes became faster and faster; at the same time he jumped quickly up and down on the perch, both feet being in the air at once; his claws made quite a sharp tap every time they touched the perch."

Gouldian Finches.

By the Rev. C. D. Farrar.

With regard to birds, I suppose I act on a similar plan to that resolved on by Koko in Mr. Gilbert's *Mikado*, who, with a view to becoming perfect as an executioner, proposed to begin with a guinea pig and work his way through to a second Trombone!

I am ashamed to say how many Gouldians I have had in my time. I can keep most birds alive, but Gouldians tax my skill to the utmost. My love for the lethal finch sometimes seems to me about as hopeless as that of the school-girl who nourished an attachment for a certain piece of Beethoven: 'My dear Fraulein, I mean to practise that piece of Beethoven until I conquer.' 'My dear,' responded the honest Fraulein, 'you do practise for seex hours a day, and you do live for seexty years, at the end you vill not blay it!' So appalling had my losses been, that I almost registered a vow to buy no more; but one's conscience adapts itself without much difficulty to one's inclinations, and when one day I saw a whole cageful of *Poephila mirabilis* all my good resolutions melted like a snowflake under the kiss of the sun.

When I first saw a Gould it was a case of 'love at first sight,' as the story books say. I wanted that bird as bad as a cow wants a calf. The possession of him, it seemed, would repay me for having been born into this vale of tears. Alas, the parting came only too soon. Did you ever hear the story of Tom Weston's calf? Tom brought them four veals into town one spring to sell. Dick Larrabee used to peddle in meat them days. Dick looked them over and says, 'Lock here, Tom, I guess you got a deaken in that lot,' he says. 'I dunno what you mean,' says Tom. 'Yes, you do,' he says,' Dick, yes, you do; you didn't kill that calf, you know it. That calf died, that's what that calf did. Come now, own up,' he says. 'Wa'al,' says Tom, 'I didn't kill it, and it didn't die neither—it just kind o' give out.' Well, that's just what my Gould did: he 'kind o' give out.'

Since then I have bought many more, only to illustrate the saying that "a fool and his money are soon parted," and all my experience might be summed up in the terse and pointed method of the *Book of Kings*, 'he slept with his fathers and So-and-so reigned in his stead.'

Of course there is nothing certain in this vale of tears but taxes and death, as the saying is; still, when I saw Gouldians advertized at 12s. the pair it seemed to me like buying something that had got value and you could not wipe it out. An American friend once said to me, 'Whenever you get hold of a ten-dollar note, you want to get it into ye, or onto ye just as quick 's ye kin. We're here to-day and gone to-morrow,' he'd say, 'an' there aint no pocket in a shroud.' I felt as I read that advertisement that if I did not do some buying I should deserve to be kicked. I have bought birds for a considerable number of years, but that particular transaction has a peg all to itself. In the first place the pair on arrival proved to be two cocks, and instead of the lovely condition spoken of in the advertisement, the motto of one at any rate was only too clearly *Moriturus te salutat*, I acting the part of Imperial Cæsar! There was only one thing to be thankful for, he had the grace to die before I had paid for him, and I fully re-echoed the words of the Editor of our greatest daily, who, on hearing of the death of Carlyle exclaimed, 'Thank God he died in time for the outer sheet!' Was it not Edgar Allen Poe who sang he 'dwelt alone in a land of moan'? Anyhow, I did that day. As I sorrowfully contemplated his dead body I thought of what I once heard an old farmer's wife say of her favourite drake, 'He'll make a fine hat when his time comes!'

Clearly my course now was to find my remaining gentleman a wife; for hope builds as fast as knowledge can destroy. That very morning I got a letter from a well known dealer offering me two Red Gouldian hens, *beauties*, underlined, 25s. the pair. Wire if I wanted them. Need my line of action be recorded?

The two ladies arrived, and certainly they were 'exceeding fair,' at least one was; the other was a bit picked, but no doubt had grave and sober attributes. Master Gould, however, has an eye to beauty, though it may be only skin deep, and in this respect resembles

Alcides, who, when choosing a bride from Olympus, should have chosen Minerva, but selected Hebe; but then, who ever loved a woman for her solid virtues? Who ever fell a victim to punctuality, patience, and frugality? It is other and different qualities which ensnare the heart, though the steady and reliable traits may hold it, I dare say, when once captured. Don't you know that Berkley once said, 'Hang it, Madam, (only he used a naughtier word) 'who ever fell in love with attributes?'

Master Gould, at any rate, selected Rachel instead of Leah, and I had to remove the latter lady to preserve her life. I put them into a large and well-bushed compartment in company with a lot of other Australians. The aviary faces due South and is, to a mere mortal, terribly suggestive of the infernal regions, but then Gouldians like that. In fact, you can't make things too hot for them. I have kept them out of doors in summer-time, but I have always had an uneasy feeling each morning on rising that I might have to say with David, 'I went by and lo, he was gone!' and Master Gould is now a gentleman with whom I take no risks. He wants heat, and I give it him. In the matter of housing birds, the motto of some people seems to be Clough's sarcastic paraphrase of the Sixth Commandment:

> "'Thou shalt not kill'; but needst not strive
> Officiously to keep alive!"

I do not belong to this category. Whenever I hear of Goulds being out in all weathers, it reminds me of the Oxford undergraduate who wrote in his exam., in reply to a question in a Scripture paper, 'These facts are not recorded in the Gospels, and there is no allusion to them in the Fathers, but they are fully detailed by Dean Farrar'! Of course, it may all be perfectly true, but I cannot afford to try.

[Lady Dunleath, Mr. Meade-Waldo, and many other aviarists keep these birds in open aviaries with perfect success.—Ed.].

I fear I could not speak of the Gould in the language of the insurance office as a ‘good life,’ but he is undoubtedly a thing of beauty. Solomon in all his glory may have equalled him; excelled him, I am sure he cannot. He is always beautifully groomed, never a feather out of place, his one aim in life being to dress himself up so that all his fellow gentlemen—may hate him, and all his fellow ladies—love him.

Gouldian Finches are exceedingly fond of rock salt, and a lump should be kept in their aviary, and frequently moistened. In the summer, when seeding grass is abundant I always give them a bundle, and they spend most of their day picking it carefully over.

Some people give them a bad name for quarreling. I have never found them so; but then, mine have plenty of room. I can't say what they might do in a cage.

The best way to buy Gouldian Finches is from a friend if you can. I got my last from a private importation. They are caught as young birds in October; moulted out, and sent over in lovely condition in the following spring. If you have ever seen a cage crowded with Gouldians in a dealer's shop, you will not be surprised that they die. They are packed like herrings in a barrel, and the heat of the cage must be terrific. They are then sent on a long and very often cold journey, turned into an aviary or bird-room, and they naturally snuff out. I always keep newly-imported birds for some weeks in a box cage and my losses are comparatively *very* few.

The young Goulds are pale green little birds with none of the lovely markings of the adults.

Some years ago I happened to go into Mr. Hamlyn's shop and he showed me half-a-dozen young Goulds out of colour, I bought them as a spec., to see what they would moult out into; and of the six, two proved to be Redheads and the other four Blackheads. They were as wild as Hawks and flew about the aviary like a flash of light, and the terrific way they banged against the wire absolutely made me shudder for their lives. Incubation lasts twelve days. The favourite nesting material I find to be fine meadow grass.

I always like to breed Redheads with Redheads, and Blacks with Blacks; so if you have more than one pair it is as well to mate them up first in a cage before turning them out; as, with the perversity of bird nature, Blacks may mate with red, and *vice versâ*.

How he keeps in such lovely condition I know not. I would not like to say that Gouldians never wash, but certainly they don't parade the failing if they have it. I fancy they are of the opinion of the two ladies I once heard, returning from a visit to Scarborough. Said one lady to the other, 'Did you 'ave a dip, Mrs. Brown?' 'No, I didn't,' replied Mrs. B. confidently, "our Tom wanted me crool to 'ave one, but I sez to him, No, I never 'ad a bath yet and I ain't agoin' to begin 'em at my time of life.' We know how scarce water is in Australia, so perhaps it is a wise provision of nature.

To see Gouldians drink would delight the heart of Sir Wilfrid Lawson; it isn't a mere sip and off, like most birds, but a long earnest invigorating draught. You might almost speak of it as the 'long pull.'

In the matter of feeding, his tastes are of the simplest: millet, canary, flowering grass, and cuttle fish comprise his whole bill of fare, if I may except the much abused maw seed, of which he is inordinately fond.

The song of the Gouldian Finch is exceedingly funny to watch. He crooks his neck, depresses his back, and dances up and down the twig, but you have to imagine the tune. It is a case of 'Songs without Words.'

In the way of nesting they prefer a cigar box. They are not free breeders, though one usually hears of a lucky nest or two each year. The young have blue beads on the inside of the mouth, their purpose is supposed to be to guide the parents when feeding.*

I don't know whether my readers will like this paper or not, still *des goûts et des couleurs il ne faut jamais discuter*. I once knew a town dandy and plunger who used to derive the most intense gratification from the perusal of Miss Yonge's novels.

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S., etc.

(Continued from page 89.)

And when we go further and investigate the later manifestations of the disease in Parrots, i.e. those apparent in the individuals which have survived the acute and early stages to struggle on through what is often a long period of chronicity, we find the same identity. As in all other birds we see the liver and spleen thickly permeated with caseous nodules, we commonly find the same cheesy masses in the mesentery and intestinal walls, and in the lymphatic glands, occasionally in the lungs, and often in the submucous tissues of the mouth and throat; while in connection with the joints, bones, muscles, and skin, they are as frequently seen as they are in pigeons. On the skin, especially on that of the facial region, where the outer layers of debris of dead bacilli and cells naturally tend to harden from exposure to the air as they are gradually extruded by the rapidly accumulating masses of bacteria at the base, they form a kind of scab in exactly the same way as we have noticed in the case of Mr. Gladstone's Wood-pigeon described in the last chapter. These scabs often assume a condition of horny hardness, and have sometimes attained to a total length of an inch or even more, then appearing something like a curly horn. On being broken away the base is seen to be an excavated ulcer filled with a semifluid mass of septic bacteria in a state of pronounced reproductive activity.

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* To be correct, these beads or wattles are not inside the mouth, but on the outer edge of the commissure of the beak. They are three in number on each side, two being emerald green and the other blue. Both colours have an opalescent appearance. The supposition that the use of these beads is to guide the parents in finding the way to the youngster's mouth is surely a joke.—Ed.

The above collective appearances represent what was described as tuberculosis by the honestly enquiring early observers with their necessarily imperfect methods of observation, and what continues to be so described by those who either cannot or do not investigate the truth for themselves with the assistance of modern methods and knowledge. Unfortunately for the rapid advance of science, the habit of stereotyping the errors of our predecessors is only too often met with; luckily however the field of research is still open to the present day honest enquirer, who, like his prototype, approaches the subject with an open mind, but who, unlike him, possesses the advantage of a wider acquaintance with pathological side lights.

The following is such a case of the disease in its later stages. A Grey Parrot which had been privately brought from Liberia, came nine months afterwards into the possession of a lady of my acquaintance, the wife of a medical man. In three months it died. She told me that it already wheezed and had diarrhœa when she obtained it, and that this continued up to its death, the diarrhœa becoming progressively worse as the time went on.

I examined it within a couple of hours after death. It was exceedingly emaciated—almost a skeleton, and the vent feathers were very dirty. In the sternal muscle of the right side there were three or four "tubercles." The sac containing the heart (pericardium), and both the thoracic and the abdominal air sacs contained a good deal of fluid and also a gelatinous mass of coagulated serum. In the pericardium this latter also incorporated a dark brown mass of broken-down blood. The walls of the various air sacs were thickly studded with cheesy nodules; the lungs also contained a good many of these; the spleen exhibited some, and the walls of the intestines contained a great number of various sizes. The liver was dark greenish brown in colour, and the intestines were pale with grumous looking contents, the mesentery presenting extensive adhesions to the parts in relation with it. There was a small "horn" at the commissure on one side of the mouth.

Material taken from the various tissues was immediately sent up to one of the public, or rather educational, laboratories in town, and a portion from the lung was used for the inoculation of a guinea pig. *In three weeks time* this animal spontaneously died of acute and typical septicæmia, the spleen being "enormously enlarged and full of small nodules, the liver ditto." The report went on to say that there was a slight collection of caseous matter at the seat of inoculation; an inguinal gland on the same side was caseous and increased to the size of a haricot bean. The lungs were slightly congested but presented no nodules. Microscopically the affected organs and the blood shewed the usual non-acid-fast septic bacilli. On the same day as this guinea pig died a second was inoculated from it, with the result that this one died after four months interval, presenting the same manifestations of septicæmia, both macro- and microscopical, as the first one. Tubes of serum and glycerine-agar which were inoculated at the same time as the second guinea pig all shewed a mixed septic infection, the bacteria being largely coccal, and not being acid fast as they would have been had the disease been tuberculosis. Besides, how could the first guinea pig have developed in *three weeks* an extensively disseminated tuberculosis due to a bacillus (tubercle) which is probably the shyest breeder in the whole range of bacteria? The idea is so unlikely that even without a microscopical examination of the bacilli it will be seen that there is but little excuse for even the average medical or veterinary practitioner when he calls this disease by its wrong name. And when those who are really conversant with modern bacteriology will take the opportunity of revising the whole question as it stands bequeathed to us by the earlier observers, they will find it quite necessary to abandon their present position. I use the phrase "really conversant" to distinguish that section of medical men from those who have done no more than go through the ordinary short course considered necessary to give medical students a general idea of the subject.

(*To be continued*).

A few Notes on British Birds in Aviaries, with some attempts to breed them.

By Sidney H. Snell, M.D.

Now first as regards the aviaries themselves—my first venture took the form of a double one-- of which one part was wood, lighted by frosted glass windows, and the other was wire on top and all sides but one. The wooden part I thought would provide shelter by night and in very heavy storms, and would also be perfectly secure in case of attacks by cats. As a precaution I had the whole garden wired round with three feet high chicken wire netting. This was fastened at intervals to iron rods which bent over *outwards* at the top. By the way, I have a friend who has a similar arrangement, but reverses the bending—so that to come in over it is not so difficult, but to get out in a hurry is not so easy. A powerful well-trained bull-terrier completes the arrangement, and the results may be left to the imagination of the reader. Well, I have no bull-terrier, and I may say at once that while the ordinary strolling cat is kept off, there seem to be some cats which, to get at the birds, will come over almost any obstacle, and at their hands I have suffered much. When they first began to find and bother this aviary, in which were chiefly British finches, I lost one or two a day. The fatal time was the very early morning. Just as it gets light master puss comes raiding, and also on clear *moonlight* nights, but I have never found them moving on dark nights. My arrangement for their safety was of no manner of use to the birds—for terrified by the appearance of the cats they dashed to and fro quite idiotically, and always ended by dashing into the jaws or claws of their agile enemy, especially if the latter can get on a wire roof.

My next venture was a large aviary of iron and wire. This was originally built as a pheasantry, with gas-piping skeleton and corrugated iron roof and sides to about one third of it. The wire was very small (half-inch meshing) and described as "cat-proof," as no cat could insert its paw through the meshes. It is nearly eight feet high. With this erection, which has about 650 cubic feet of space, I have been able to defy the cats; and although the greater part of the roof is wire—owing to the height, the small mesh of the wire, and the fact that the supports are iron, cats are unable to climb it. If the uprights were wood they would make no bones about the feat. In this aviary I planted shrubs and turfed part, so that it makes as natural a home as one can imagine for its size, and I have had various British birds, especially with a view to nesting.

I began with pairs of the British finches and some soft bills, and I tried them in crowds and in single pairs. It may be stated at once, however, that the study of the birds under these conditions is very interesting, and one thoroughly learns their various notes—but that although a certain amount of courtship may go on—the practical nesting results are few and far between; and even where nests are made and eggs laid the chances are greatly against the hatching and rearing of the young.

I think a very important and practical difficulty is the mating up of the birds—making sure you have a real pair—as in so many species the sexes are alike. One year I tried to get a true pair of hand-reared Missel Thrushes, determined to give them the whole place to themselves. Well, I advertised extensively. When I asked for cocks I had shoals of replies; when I advertised for a hen I had also shoals of replies. A few people I noticed had evidently rather short memories and answered both my advertisements with an offer of the same bird. To cut a long story short, I finally had purchased some six or seven, until I felt that I had at last secured a true pair, and consigned them to the aviary, which they had the run of for two months in early spring. Nothing having happened I subsequently determined by dissection that they were two hens!

The next year, determined to be on the safe side, I procured a cock and hen Bramblefinch, and they also had the run of the big aviary to themselves from March to July. The cock bird, as spring advanced, put on very fine breeding plumage; his head becoming absolutely black, losing all the brown mottling. He paid quite marked attentions to the hen, which were not however reciprocated by her; and so, although in this case they were undoubted cock and hen, the experiment came to nothing. I was enabled, however, during this period to study somewhat carefully the notes of the Bramblefinch. He made no attempt at any song, but frequently uttered a long drawn out "cree-e-" precisely similar to the note of the Greenfinch, and in fact quite undistinguishable from it; an alarm note "too-wee," very similar to a diminutive edition of an owl's note, and also an occasional small "chuck."

Amongst the crowd a pair of Greenfinches mated up and built a nest in one of the shrubs; they laid four or five eggs and hatched them out. The young, however, very quickly came to an untimely end, very probably from want of suitable food. I have not tried these birds since, but should certainly mark them as easily breeding in captivity, and for this purpose they have the great advantage of distinguishable sexes.

With the Goldfinches, Linnets, Twites, and Redpolls there was no attempt at nesting; but two out of three of the Hedge-Sparrows present paired, built a nest in another of the shrubs, and laid. They were not at all shy during these operations; as, for instance, one day I took my camera into the aviary, and parting the bush, photographed the hen sitting on the nest. Unfortunately a bad storm occurred in June—thunder, lightning, and hail—and the next day the bird was found quite dead upon the nest, probably having been struck by a hailstone. This shows one of the ways in which, in a state of nature, adverse weather may affect bird life.

After removal of the Hedge-Sparrow from the nest a somewhat curious circumstance occurred. The hen of a pair of Chaffinches, which had hitherto showed no interest in nidification, sat on the forsaken and now empty nest for about a fortnight, but I could not discover that she laid any eggs. Hedge-Sparrows may be named as, in all probability, nesting freely in an aviary; but here again the difficulty arises of making sure of a true pair.

The Redpolls, of which I had seven or eight, made a most cheerful band, but I found them terribly destructive, as they ate all the buds and small leaves of the aviary plants, including in their depredations the killing of the only tree, a copper beech. They showed no signs though out in the open of assuming full breeding plumage, and made no attempt to nest, although it may be presumed that amongst the number both sexes were present. My experience however enables me to warn aviarists against Redpolls in an aviary if they wish to keep their vegetation.

A great interest afforded by the aviary was the attracting of wild birds of like species to those in captivity; and, although this garden is within the London area, and indeed only just without the four mile radius, visits have been noted from the following birds at different times: Greenfinches, Redpolls, Chaffinches, Bramblefinches (this as a wild bird is certainly very rare in these parts), Stonechats, Long-tailed, Blue, Cole, and Great Tits, Lesser White-throats, a hen Redstart, Yellowhammer, Gold Crest and ordinary Wren, and Missel Thrushes, besides such common birds as Thrushes, Blackbirds, Starlings, Robins and Hedge-Sparrows.

In November 1902 I became the possessor of a pair of Bearded Tits; they were strong and healthy, fed well, and were no trouble. After keeping them together in an indoor aviary for the winter I gave them the run of the big aviary in the following May. This pair of birds were extremely affectionately disposed towards each other, always roosting close together like Love-birds, and often settling down together during the day for a few moments. Generally they were restless and their movements full of life and vim;

constantly reiterating their little bell-like note. They often obliged each other by apparently seeking for insects on each other's necks, and would turn the desired part to the searching bird in the fashion of monkeys. They showed no signs of nesting, though provided with a large pot of a reed-like plant ; and unfortunately the experiment was brought to an end by the cold and wet of that long remembered summer of 1903, which killed the cock bird. His death however seemed to have no depressing effect on the hen, which I subsequently sold in a healthy condition in the autumn. These Bearded Tits did very well on ordinary soft mixtures, and they were exceedingly fond of crushed hemp and mealworms, and would come freely to the hand for the latter.

I kept some Snow Buntings right through the summer, and their changes of plumage were interesting to watch, but they showed no disposition to pair, though this can of course hardly be wondered at.

At the present time there is a very handsome Magpie flying quite loose, and a Jackdaw with clipped wings. These two seem to show some signs of pairing—the Magpie certainly courting the Jackdaw, and at times they display interest in nesting materials—but whether any result will follow seems very doubtful.

These few brief notes will I think show that more failures than successes in the matter of breeding have attended my experiments—but still the corner of the garden occupied by the aviary is always interesting.

The Food of Birds in Captivity.

By H. R. Fillmer.

(*Continued from Vol. III. p.* 137.)

V. FRUIT OR POLLEN-EATING BIRDS OTHER THAN PARROTS.

This group includes (besides others) the Tanagers, Bulbuls, Honey-eaters, Sugar-birds, Zosterops, and some of the British Warblers (such as the Blackcaps and the two White-throats). All these birds require some good insectile food and also a regular and liberal supply of fruit. I shall consider the question of insectile foods under the next heading.

The fruits most generally useful are apple, pear, banana, and orange—some birds like one best, and some another. and they generally enjoy best the fruit to which they are most accustomed.

Milk-sop is sometimes given to the birds in this class, but after several years experience of its use I have abandoned it. It is unnecessary in all, or almost all, cases, and has dangers and disadvantages which I think outweigh its merits.

As a rule, the birds of this group are not very fond of mealworms—but they may be supplied to those which will eat them.

Although I have grouped together such different birds as Tanagers, Sugar-birds, and Warblers, it must not be assumed that they all require the same diet. It is difficult to get the smaller Tanagers, and the Sugar-birds, to eat an ordinary insectile mixture—often they will refuse almost everything except crumbled sponge cake and fruit. Honey is not generally considered a safe diet—but the only Yellow-winged Sugar-birds which I have known to live and thrive in this country were fed largely upon it, in fact a section of honey-comb was always kept in their cage.

Banana meal is considered a useful food for Tanagers, and I have been told that it is almost essential for keeping Fruit-Pigeons in health. But I cannot say that I have found it altogether satisfactory. I think powdered dog-biscuit, slightly-damped with boiling water, forms a good basis for a food for Tanagers, and to this should be added (before the moistening) some of the insectile mixture mentioned below.

VI. INSECTIVOROUS BIRDS.

There are few points of aviculture upon which so much difference of opinion and practice exists as upon the question of what is the best food for these birds. All are agreed that ants' eggs should form one of the chief ingredients, but that is the only point upon which agreement exists. For some years I used a mixture of ants' eggs, dried flies, fine crissel, and Spratt's fine Game Meal. Afterwards I discontinued the Game Meal, and substituted crumbled *Colifichet* for it. I am, however, now convinced that the use of crissel for the more delicate species is a mistake, and should advise a simple mixture of ants' eggs, dried flies, and either crushed biscuit or *Colifichet*, in preference to the formula mentioned above.

There is, however, a food extensively used on the continent (though hitherto almost unknown in England), which in my opinion ranks next in value to ants' eggs and dried flies, and in combination with them forms what is, in the present state of our knowledge, *the* best food. This is the dried and powdered pupæ of the silkworm moth—a waste product which can be bought in bulk at a very cheap rate in silk growing countries. In a recent article, the Rev. C. D. Farrar refers to a food "like linseed meal" which was recommended to him by a German: this was no doubt simply silkworm. Unfortunately this food cannot, so far as I know, be bought in this country. A year or two ago a dealer in Liverpool supplied it under the misleading name of locust meal, but he has left England, and I have to import mine direct from Germany.* I buy, under the name of "*Universalfütter*," a mixture consisting of silkworms, ants' eggs, and dried flies, which costs me about 1/- per lb., and parcel postage in addition. I generally add to this some more ants' eggs, and serve it to the birds *slightly* damped with boiling water—sometimes adding a little crushed Osborne biscuit. Instead of using water the mixture may be moistened with a very little salad oil, and the birds appear to prefer this. It has the advantage of forming a mixture much less liable to turn "sour" than a damped food. I cannot say that I have ever observed any bad results from the use of the oil—though it is a somewhat unnatural food, and I am told it is not scientifically correct. [The effects would not be immediate, and would not be recognisable until the after-death examination. The giving of fatty matters in excess of natural supplies to birds *in captivity* cannot fail to be detrimental to the health of the digestive organs. The writer of the article grasps this principle perfectly when speaking further on of egg.—Ed.]. Fruit should always be given to any birds which will eat it. Mealworms and other live insect food should be supplied freely, and this, being a strictly natural diet, can scarcely be overdone.

It will be noticed that I have made no mention of egg in any form. I have used none for my own birds for about two years, and have no intention of ever using it again. It is at all times a dangerous substance in the bird room or aviary, and, being quite unnecessary, it is much better to do without it. Apart from its disadvantages as a harbourer and intensifier of the germs of septic disease, it is too concentrated and fattening a food for adult birds.

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* The dried pupæ can be obtained direct from Messrs. Grilli Bros., (Fratelli Grilli), Via Ghibellina, Florence, Italy. For 4/7 they will send 5 kilograms, about 10lbs., post free.—Ed.

The Wild Canary.

(*Serinus Canaria*).

By W. GEO. CRESWELL, M.D., F.Z.S.

(*Continued from page* 100).

A VERY striking confirmation of these early writers having been correct—as indeed one would expect them to be, seeing that most of them were so much nearer the spot both as to time and place than we are—is to be found in our own everyday experiences. In these modern times everyone, whether his biological knowledge is little or much, is familiar with the expression "reversion to ancestral type." And we see a concrete instance of this reversion every time we breed a variegated canary in our cages, and on most occasions when we breed a mule. This obedience to those natural laws which have been revealed to us by science, constitutes indeed the great stumbling block against which our fanciers of the "Green Canary" have had so persistently to kick their toes. Although with infinite patience they have so far conquered the natural characteristics obtaining in the species as to have succeeded to a great extent in perpetuating by strenuous selection from accidental sports that peculiar structure of the feather barbs, which in combination with the greyish-brown and yellow pigments gives the ocular appearance of green, they nevertheless constantly complain of the prevailing tendency to appear of what they regard as the objectionable brown tint. A careful study of the coloration of Canary hybrids (even apart from those derived from the Goldfinch or Linnet) betrays the same thing. Only when the other parent is decidedly green, e.g. a Siskin, do we find anything like that colour in the offspring. Some years ago I was successful in breeding several young birds between a Serin Finch (*Serinus serinus*) and a Canary. Although the former bird shows a little green about the wing coverts, the

Canary mother in this case appeared to exercise the prepotence, for these youngsters one and all shewed no trace of this colour, but were almost exactly like what the older writers and the present scientific ornithologists alike recognize as the feral Canary.

With all the above grounds before us it therefore seems to be taking an untenable position to say either that the parentage of our domestic bird is obscure, or that the greenish "Cape Canary" with its "old gold" front, its yellow fringes, and its ashy grey neck, is the original stock.

Yet one more argument, which I include for the benefit of those who dislike to be convinced by anything savouring of science, or as they love to call it—theory. Although in 1486 Diaz, the Portugese adventurer, landed for a few days at what is now known as Algoa through stress of storm, and then sailed away to avoid the hostile attentions of the natives, (circumstances not likely to have allowed of bird catching), and although in 1497 the east coast was sighted, (though not touched), by de Gama on Dec. 25 and hence named Natal, it was not until another century had passed that any fresh landing was effected. On this occasion, in 1601, a stay of seven weeks duration was made in Table Bay by five small ships, manned by those who were not very likely to worry themselves about insignificant looking small birds, or even to possess the conveniences necessary to transport in safety through so long a voyage a sufficient number of them to stock Europe. Besides in 1544, *fifty-seven years previously*, we see from Turner that Canaries were already so common as to be even then found in English cages. It is therefore perfectly obvious that it is not to South Africa that we must turn for our Wild Canary. Rather let us accept the little bird which is presented to us as such by the string of ornithologists beginning with Gesner and ending with Dr. Bowdler Sharpe.

On reference to Vol. XII. of the British Museum Catalogue we see that this latter authority enumerates 19 different species of Serin, amongst which however he does not include the Canary. This bird he puts down in subordinate rank as a sub-species of the Serin Finch (*Serinus serinus*). Although Prof. Newton, in his more than valuable *Dictionary of Birds*, appears in a measure to deprecate this arrangement, since at any rate he draws pointed attention to the fact that Dr. Sharpe gives no reasons for his departure, yet it seems that the classification is sound and the reasons not far to seek.

First of all, what is meant by being a subspecies? Just as the 19 different species have been slowly produced by as many (perhaps simultaneously) radiating diversions from some common primordial stock, which is by now either completely lost, or which on the other hand may have even continued, (though perhaps in gradually changing form), to the present time, thus constituting some one of the 19 races, so the title of subspecies would indicate that at a more recent period the Canary has been evolved as a secondary product from some accidental variation of the Serin, which we know has not been lost, but still continues alongside its presumed offshoot.

The facts and analogies pointing to this having been the case are strong. From Darwin we learn that "the most striking and important fact for us is the "affinity of the species which inhabit islands to those "of the nearest mainland without being actually the "same." Again:—". . . . . . it is an almost universal "rule that the endemic productions of islands are "related to those of the nearest continent or of the "nearest large island." Thus he tells us that the birds of the Galapagos Archipelago lying about 500 miles from the shores of South America have an affinity to American birds which "is manifest in every character, "in habits, gestures, and tones of voice. . . . The "inhabitants of the Cape Verd islands are related to "those of Africa, like those of the Galapagos to "America; . . . . it is obvious that the Galapagos "islands would be likely to receive colonists from "America . . . . and the Cape Verd islands from "Africa; such colonists would be liable to modifica- "tion—the principle of inheritance still betraying "their original birth place." *

By the light of these general principles, and indeed particular instances, we must necessarily recognize the claims of the Canary to trace its descent from the primeval type, whatever it was, not in a direct line through millions of years, but through the medium of the Serin Finch during some much shorter period—to be in short a comparatively recent offshoot from the latter. The Serin is the member of the family, which in addition to being an inhabitant of Southern Europe, is peculiar to the North West portion of Africa, including the littoral of Morocco, where it is exceedingly common. And Morocco is the nearest part of the mainland to what for our present purpose we may call the Canary group of islands. Modifications from the type of the Serin proper, evidently due to a new environmental selection are found in the Canary serin; but so slight are they that while yet sufficient for differentiation between the two, they do not obscure the great and apparent affinity they have for each other. This affinity is the more striking when we take the two birds and compare them with the rest of the family: they are at once seen to present an aggregate of similar characters which conclusively mark them off from their relatives, while still proclaiming the relationship. In other words the two are so alike as to be manifestly much more closely related to each other than either of them is to the remaining members

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* *Origin of Species*, 6th ed., pages 332 and 333.

of the genus. Under these circumstances it therefore appears that the giving a position of sub-rank to th Canary is not merely expedient but actually imperative.

(*To be continued*).

Post Mortem Reports.

(*Vide Rules*).

CANARY. (Mr. Fillmer). This bird's death was not due to violence, but to an acute attack of pneumonia affecting both lungs.

QUAIL. (Miss Baker). Enteritis was the cause of death. I do not think that treatment would have been of any avail.

PIGEONS, two. (Dr. Salt). The birds in this loft, though well nourished and feeding young, have been dying in quick succession lately. These two exhibited a profound condition of pneumonia, the lungs being completely hepatized (*i.e.* of the consistency of liver). This was apparently the only trouble present. Some method of rigid disinfection should be adopted, not only of the loft but also of all utensils.

CORDON BLEU. (Mrs. Mellor). Very fat, liver congested and in part shewing fatty degeneration. This condition had existed some time, but the immediate cause of death was pneumonia, of which there was a small patch in one lung.

YELLOW HAMMER. (Mr. Rycroft). Contrary to external appearances this was a male bird, the dinginess of the plumage being due to ill health. It was exceedingly thin and had suffered for a long time from congestion of the kidneys and liver.

SNOW BUNTING. (Dr. Master). This bird was inordinately fat, thick layers of adipose tissue enveloping the internal organs. In addition. the liver and spleen were entirely in a condition of fatty metamorphosis, being universally of the colour of cream cheese.

QUAIL. (The Rev. R. H. Wilmot). Enteritis was the cause of death.

CANARY. (Mr. Cronkshaw). Fatty degeneration of the liver and pneumonia, the former being of long standing, and the latter recent and acute.

WHITE-HEADED MANNIKIN. (Mrs. Wright). Pneumonia of both lungs was present in a very virulent form.

CANARY. (Miss Gibbons). This bird, which was very anæmic, died of pneumonia. *Re* foreign birds just bought from a dealer: they should be kept in quarantine for about three weeks.

PEACH-FACED LOVE-BIRD. (Mrs. Leslie Miller). Recently bought from dealer, this bird died of septic disease. The feeding was quite correct.

Letters to the Editor.

LADY DUNLEATH'S AVIARIES.

SIR,—It may interest some of your readers to know how my aviary is doing. I am happy to say that I have lost very few birds this winter, and all are looking very well. The Green Cardinals made a nest on a stump and laid three eggs, two hatched and now there is one very well-grown young one flying about; its parents still feed it. I cannot make out what happened to the other. The old birds are very tame and fly to me for mealworms whenever I go into the aviary.

I have a great number of young Zebra Finches. I saw eight being fed all together on the ground, the other day, by one old cock.

The Cut-throats are sitting.

Two Canaries have young ones, and two others are sitting. I have four so-called wild Canaries; they are green, very slim, and have a soft, gentle song. They were brought to me by a friend from Madeira; one laid two eggs (it made a nest on the ground), one hatched, but it died. A yellow Canary has made a nest of hay and feathers in a fern and another in the side of an old stump.

The hen Bullfinch, a German, mated with a Russian cock, reared some beautiful young ones in 1903; last year she made three nests and all the eggs gradually disappeared; this year she made a lovely concealed nest in a fern against an old root and laid four eggs on which she seemed to sit well, but the eggs have gradually gone. She may have eaten them herself—is it likely? Or mice may have taken them, or perhaps Saffron Finches. I cannot make out—one side of the nest looked a little pulled about.

The Nicobar Pigeons have laid one egg and are sitting well on it. They had one young one last year, but when a week old it fell out of the nest and died. It was just like black leather, with no sign of down or feather. This year they have chosen a smooth flat place in the middle of the rockery, and I hope they will be more successful.

My two hen Californian Quails have laid seventy-one eggs, but the young ones do not seem very strong this year; twelve were brought out by a Bantam, and eight are doing fairly well, and six more hatched to-day. One Californian hen died just as she was going to sit.

My Green Bulbul is tamer than ever, he flys to me whenever he sees me and takes a mealworm out of my fingers while on the wing; he is terribly fat and I have now brought him in and am dosing him with Epsom salts and giving him meagre diet; he was looking very puffy, but he is already looking better. I only took in this year this Bulbul, the Scarlet Tanagers, and a few very small Waxbills; all the others wintered out and have done well. All the nests are out of doors, and of course none of the birds are shut in at night now.

My Virginian Nightingales show no sign of making a nest, though the cock feeds the hen—the latter whistles almost as well as the cock. They are in a place by themselves.

The Green Cardinals were with all the other birds. Pekin Robins, Tanagers, all the Weavers, Whydahs and Glossy Starlings I kept in a division by themselves.

I have a pair of Indian Buntings, brown heads and necks, and a good deal of yellow on the body. Can any of your readers tell me if they are likely to breed, or if they would hurt the eggs or nests of small birds? They are at present with the mischievous birds. N. L. F. DUNLEATH.

[The Saffron Finches were most likely responsible for the loss of the Bullfinch eggs.—ED.]

BIRDS IN ST. JAMES' PARK IN 1665.

SIR,—I venture to send you the following extract from Evelyn's Diary, under date of February 9th, 1665.

" I went into St. James' Parke where I saw various animals and examined the throate of the *Onocratylus* or Pelican, a fowle between a Stork and a Swan; a melancholy waterfowl brought from Astracan by the Russian Ambassador, it was diverting to see how he would toss up and turn a flat fish, plaice or flounder, to get it right into its gullet at its lower beak, which, being filmy, stretches to a prodigious wideness when it devours a great fish. Here was also a small waterfowl, not bigger than a more-hen, that went about quite erect like the Penguin of America; it would eate as much fish as its whole body weigh'd. I never saw so unsatiable a devourer, yet the body did not appear to swell the bigger. The Solan Geese here also are greate devourers, and are said soon to exhaust all the fish in a pond. Here was a curious sort of poultry not much exceeding the size of a tame pigeon, with legs so short as their crops seem'd to touch the earth; a milk white raven; a stork which was a rarity at this season, seeing he was loose and could flie loftily; two Balerian cranes, one of which having had one of his leggs broken and cut off above the knee, had a wooden or boxen leg and thigh, with a joynt so accurately made that the creature could walke and use it as well as if it had ben natural; it was made by a souldier. The Parke was at this time stored with numerons flocks of severall sorts of ordinary and extraordinary wild fowle, breeding about the Decoy, which for being neere so greate a Citty, and among such a concourse of souldiers and people, is a singular and diverting thing. . . . . . . There were withy-potts or nests for the wild fowle to lay their eggs in, a little above the surface of the water." CORVUS.

[The above is exceedingly interesting, and it is hoped that other readers will, from time to time, favour us with selected extracts bearing on our subject, from works which themselves are not primarily devoted to Ornithology or Aviculture.—ED.]

BULLFINCH FEEDING YOUNG.

SIR,—The following may perhaps be of some interest to the readers of *Bird Notes*. I have four young Bullfinches, which I put into the cage of a hand-reared 1904 cock. At first he would not go near them; but in two days' time took to feeding them, all day long catching flies for them from the windows and about the room, as he is allowed out of his cage. I should like to know how soon one can distinguish young hens from the cocks. Also the best food to hand-rear Canaries on? E. BROOKSBANK.

[The sexes will be distinguishable as soon as the moult produces the breast feathers. Young Canaries may be hand-reared on scalded rape seed and soaked ants' eggs made into a paste with powdered unsweetened biscuit.—ED.]

THE PURPLE-CAPPED LORY.

Sir,—A little time ago you were kind enough to publish in *Bird Notes* my dirge written on the death of my Purple-cap Lory, and perhaps you will now find room for a few lines on his successor, another Purple-cap. He is so very like as to be almost indistinguishable from my poor "Rajah," both in appearance and manner, but I am sorry to say not in either talking or musical accomplishments, as he has never made any attempt to speak a word since I got him, now about three or four months ago, and I do not know if there is any prospect of his ever becoming such an orator as the Rajah was, though *he* took a couple of months before he attempted to speak or copy any kind of tune. The present "Rajah" (I call this bird Rajah also) was, when I got him, about the most spiteful and vicious bird imaginable, and if my hand only approached his cage he flew at it, snapping his beak and when possible biting and giving a severe wound, so much so that I intended to get rid of him for his bad temper. However, after I had him for a little time, he became the most reformed or transformed bird that it was possible to imagine; instead of showing anger and spite he was and is now the most amiable and affectionate bird, and it would now be quite impossible to make him bite, even when putting him forcibly into his cage after his bath and a little freedom. This was the only thing that Rajah No. 1 resented, and when forcibly caught and put back he frequently bit hard, but No. 2 never errs so much as this even.

He is in beautiful plumage (and health apparently), but is very noisy. I should feel extremely obliged to any correspondent who would kindly tell me something more of these beautiful and interesting birds. They seem to differ in many respects from the ordinary parrot, more particularly in their movements, which in the parrot kind are generally slow and sedate. As a rule birds of this genus remain very quiet and sedentary, but the Purple-cap is very rarely quiet and is almost as active as a Blackbird, hopping to his perch, not walking or scrambling like ordinary parrots, but bounding with a great spring. His mode of progression is more that of a Magpie, advancing by great hops at a good pace.

These birds are most affectionate, and are intensely pleased at being pulled about in any way, even at being carried by the legs or head. or put on their backs and tickled, when they chuckle with delight. I have read in some book that they have been known to breed in this country in an aviary. I thought of trying a pair in this way.

If owners of Purple-caps would kindly give their experience with them they would be doing a kindness to me and possibly to many other bird lovers.

W. F. SMITHWICK.

Editorial Notes.

OWING to the great amount of work entailed by the offices of Secretary and Editor being conjoined, it has been found impossible for one man any longer to combine the two, while at the same time doing justice to the claims of his own private professional work. As a matter of fact Mr. Fillmer was only able to do so, for so long as he did, by making use of his own clerks to help him in the routine business of the Club, including the publication and distribution of the Magazine. When Mr. Goodchild assumed the duties it is true that he was somewhat relieved by the appointment of Messrs. W. T. Moulton as Publishers, but it must be remembered that on the other hand he was already responsible for the production of the beautiful illustrations which are so marked a feature of BIRD NOTES.

Being entirely single-handed he has therefore desired the Council to sever the offices. The Council, while regretting the necessity, has acceded to his wish and at his further suggestion has appointed myself as Editor.

No efforts will be spared to keep the Magazine up to the standard it has already attained to, but these efforts on the part of the Committee and staff must be seconded by the members at large. In the first place we should like to see a greater number of contributors of articles. Outside the ranks of those who are well known as writers there are many of us who could impart valuable experiences to our fellows if we would. Some abstain probably through diffidence at appearing in the unaccustomed guise of authorship. Let these take heart of grace and remember that everything has a beginning. Some may be doubtful whether they possess a sufficiently graceful style:—let these then take a *nom de plume*, from the shadow of which they can themselves compare their work with that of the rest. Others perhaps think that what they know may not be worth imparting; our answer to these is that all *facts* are worthy of knowledge, that knowledge is Science, and that a paper so short as to contain but one fact, provided that it *is* a fact and not a groundless opinion, expressed even in only one sentence, is yet of the greatest possible value in helping to build up that fabric of truth to which it is our aim to aspire. Even if a fact has been recorded before it is often of the greatest importance to record succeeding instances of its occurrence.

Secondly, we would wish our readers to make the fullest possible use of the Correspondence Columns. There are many matters of interest about which we can consult each other, and information gained in this public manner may often be of considerable assistance to others besides the actual enquirer. These columns also afford a field for friendly criticism of articles which have previously appeared in our pages. Such criticism is welcomed by all our writers, provided it is real criticism and is supported by legitimate argument. It is another means whereby we can arrive at Truth.

IS EGG NEEDFUL? Apropos of this subject here is an experience which will be of interest. Early this spring a lady with whom I was slightly acquainted (Mrs. Askham, of Cranes Park, Surbiton) asked me what she should use as a substitute for egg food this season. I recommended her to try my insectile food, viz. dried flies, ant eggs, and crushed unsweetened biscuit in equal parts. On June the 24th by invitation I called to see the results, and received permission to publish them. Four pairs of Canaries only had been put up, each in an ordinary single breeding-cage.

The first pair had laid three nests of eggs, all of which turned out infertile.

The second pair:—their first nest had three eggs. One chick died in the shell, the other two were hatched on April 26. Both were reared; one has just been sold at a Bazaar, and the other I saw in the flight cage. Their next nest contained three eggs, all of which hatched on June 3. These young ones—at the early age of three weeks—were scrambling about the perches when I saw them.

The third pair:—their first nest of five eggs resulted in two being hatched on April 3. These two were flying about, and one was recording his song while I looked at him. The next nest contained six eggs, all of which hatched on June 8, and all the youngsters are alive and flourishing.

The fourth pair:—their first nest had four eggs. Three of them hatched on May 4. One young one died the third day. The rest are flying. The second nest contained three eggs, none of which hatched.

The food consisted of Canary seed, given as staple food in the seed glasses. A little rape was given almost every day. The insectile mixture was given dry, a small quantity morning and evening, as was also green stuff. While actually feeding their young the birds were supplied with hemp seed. As the young ones were transferred to the flight cage they had in addition to the Canary seed and insectile food, a little scalded rape mixed with powdered biscuit. While I was there some of the insectile food was given to the young in the flight cage. It was astonishing with what eagerness they attacked it.

Thus we see that out of 14 young ones hatched, only one died, and that one in its early infancy. The rest are if anything above the average in robustness, condition of feather, and strength. They are Norwich Canaries.

W. GEO. CRESWELL.

The Golden Eagle.

(Aquila chrysaëtus)

By C. Castle-Sloane, F.Z.S.

What innumerable legends and fables have been written about this, the king of birds! What persecution has it suffered—not only being shot, but actually in some cases its nest, with eaglets in it, being destroyed by burning!

The bird I possess is a young one about two years old; it is of a deep brown all over, with a tawny tint on its neck and head, the legs yellow feathered down almost to the toes, the claws black, and the tail dark brown at the base, with the upper part ashy white. It measures about six feet from tip to tip of wing.

It occasionally utters short whimpering cries, and appears to be quite tame, though in this it is deceptive, as the attendant has found out. Once or twice he stroked it, until on one occasion it fastened its claws round his wrist, when he gave up doing so. These birds are sometimes fastened by the leg to a stump in the ground, a proceeding I should think likely to break the bird's leg, and affording no enjoyment to the owner or to the bird. The one I have is in an aviary about 18 ft. long by 10 ft. wide; it seldom enters the closed portion, and prefers to sit outside in the worst sort of weather. I have never seen this bird drink, but I have noticed, after he has eaten a rabbit, some moisture dripping from his beak. As an experiment I once turned a live rat into the aviary to see how he would kill it, but it seemed to be the other way about, for when the rat climbed the wire netting and walked towards the Eagle, he took no notice until the rat began to nibble the feathers on his leg, which frightened him so much that he half flew and half tumbled off the perch. Another time the rat took it into his head to jump on to the Eagle's back, which caused the latter to knock himself about so much that I had to take the rat out.

In the way of food he is passionately fond of rabbits, one of which he will eat in a day. When it is thrown to him he will look at it for a second or two; then, pouncing upon it and holding it with his claws, he commences to drag it hither and thither until he has found a suitable spot; then he begins at the head, the fur, small bones and all going down without the slightest effort; but should he hear the smallest noise, he spreads his wings all round the rabbit, and flashing around his magnificent eyes with gory fur adhering to his beak, looks all round as much as to say, "Yes, I have it, if you want it you will have to get it."

Sometimes I was hard pressed to get food for the new favourite, and it was not always with joy that I took my gun in the midst of hail storms and the like to find rabbits, which I found objected to the weather as much as I did, so in moments of perhaps excusable weakness I lingered too often near a lot of prize chickens which were near the aviary, and one or two days I noticed some dejected hens which I thought it would be kind to put out of pain, so out of pain they were put, and given to the Eagle; this was all right for a time, until someone noticed the chickens were getting scarcer, when of course I said "it was those beastly rats." Then the fat was in the fire, as they were then all removed to another place quite a long way off, and where it would have been just as bad to get to as to go and shoot a rabbit.

We get a pleasing account of the tameness of the Golden Eagle from Jardine's Ornithology. A Mr. Thompson writes:—

"My friend, Richard Langtry, Esq., of Fortwilliam, near Belfast, has at present a bird of this species, which is extremely docile and tractable. It was taken last summer from a nest in Inverness-shire, and came into his possession about the end of September. This bird at once became attached to its owner, who, after having it about a month, ventured to give it liberty,—a privilege which was not abused, as it came to the lure whenever called. It not only permits itself to be handled in any way, but seems to derive pleasure from the application of the hand to the legs and plumage. This Eagle was hooded after the manner of the hunting hawks for some time, but the practice was abandoned; and although it may yet be requisite, if the bird be trained for the chase, hooding is otherwise unnecessary, as it remains quiet and contented for any length of time, and no matter how far carried on its master's arm. When this eagle is at large, my friend has only to hold out his arm towards it, which, as soon as perceived even from a distance, it flies to and perches on."

Another interesting account we get from *The Animal Kingdom*:—

"This bird appeared so redoubtable to the ancient poets, from his bold glance, proud air, the elevation of his flight, and the strength of his limbs, that they consecrated him to Jupiter, and deposited the thunderbolts in his talons. He was termed the celestial bird, and the augurs esteemed him as the messenger of the gods. The Persians and the Romans adopted the eagle as their standard of war. Modern potentates have followed their example, and we have ourselves beheld the greater part of Europe tremble at the elevation of this imperial standard. The bird has also been considered the emblem of genius.

Notwithstanding the want of docility in the great eagle, it appears that he was formerly employed in the east for the purposes of hunting. But he was found unfitted for falconry, both by reason of his great weight and his capricious and irritable temper. Some people of the north however still train this bird for the chase. The Kirguis, whose country is situated eastward of the Caspian, judge by certain marks of the disposition of these eagles, and purchase from the Russians of Samara, at a very great price, eaglets taken from the nest, to train them to hunt the wolf, the fox, and the gazelle.

The scent of this bird being feeble, he hunts only by sight. Though he elevates himself in the air above all other birds, yet he rises from the ground with difficulty, especially when overloaded, from the want of suppleness in his legs; yet he can carry off geese, cranes, hares, young lambs, and birds: it is even pretended that in Scotland children have been found in his nest.

If it is true that the young eagles are chased from the nest as soon as they are able to fly, this habit would appear derived from the difficulty with which birds of prey procure subsistence. Yet it is well known, that when a mountaineer has discovered an eagle's nest, he can supply himself for some time with an ample store of provision by subtracting the game he finds there during the absence of the old ones. It is even pretended that by tying down the young, he can prolong the period of his robberies. These facts but ill agree with the precipitate expulsion, or rather with the above solution of it. Smith, too, in his history of Kerry, relates a story as little in accordance with it. A poor inhabitant of that county provided for his family abundantly for an entire year, by taking from an eagle's nest the food brought there by the parents: and that he might prolong their attentions beyond the ordinary period, he contented himself with clipping the wings of the eaglets to retard their voluntary departure.

Klein mentions one which lived at Vienna one hundred and four years in a state of captivity."

I have seen one or two Golden Eagles in the West of Ireland soaring high above the cliffs:—

"Here summer like a dream
Hushes the noisy stream
And storm swept seas;
Here the crag's stately crest
Gives Jove's great bird her nest
And woos the breeze."

I hear they are getting very scarce: my readers may have observed that there are people who cannot see a flower but they must needs go and pick it, and so curtail its short life; and so it is with a bird—they see it on the wing and down it comes. One asks in amazement, "What did you shoot it for?" "Oh, I thought it was a rare bird," is the ready answer.

Breeding the Spice Finch.

By Henry Dart.

In the Editorial Notes of the last issue I noticed an account of breeding Canaries without the use of egg, and as I am one of those who look upon egg as an unnecessary trouble, besides doing no good, but rather likely to do harm, especially in the hot weather, perhaps my breeding experiences of this year may be of interest. But before I proceed let me say that besides no egg I never give soaked bread or scalded seeds, as are so often recommended by aviculturists. The foods I give, besides the seeds of every kind that I find they will eat, are oats (generally crushed), ants' eggs, dried flies, ordinary house flies when I can catch them, all kinds of green stuff, (including a constant supply of apple), sponge cake, a few grocers' currants (especially in the aviary where the Pekins are), and now and then some mealworms. Everything I give I give separate. I do not find they eat much of the sponge cake, ants' eggs, or dried flies.

In the autumn of 1904 I bought a pair each of Cockatiels, Rosellas, and Yellow Budgerigars, which I placed in an outdoor aviary; about the end of February I found the Cockatiels had gone to nest; they had five eggs; three were hatched, one young one died in the nest, the other two were reared to maturity. During the time the Cockatiels were breeding, there was constant trouble between them and the Rosellas, which decided me that if I got an offer for either the Cockatiels or Rosellas, I would part with one pair, and as I could not guarantee that the Rosellas were a pair, I sold the Cockatiels.

Very soon after the Cockatiels had gone, I saw that matters were going on all right with the Rosellas, and that I had got a true pair. After a time the hen laid five eggs in a large log that I had made into a nest from the trunk of an apple tree; she chipped pieces off from the inside and laid her eggs on the chips, and I am very pleased to say brought up all five young ones, which are now flying about and feeding themselves. There was always a day between each bird leaving the nest, and the parents fed them for about eight days after they had left the nest; I found them very wild, and liable to dash about when I went into the aviary. The old ones look like going to nest again. The other birds in the aviary with them are Budgerigars, Pekins, Javas, Red-headed Cardinals, one Green Cardinal, one Bronze-necked Weaver, and one young cock Canary. The Pekins were put into this aviary a few weeks ago. Having had young Canaries and young Zebras pecked about the head and killed, most of my friends thought the Weavers were the sinners, but I blamed the Pekins; certainly since I removed them I have not lost any more.

The Yellow Budgerigars I separated the first few months of the winter, but put them together at the end of February. Since then I have ten young ones flying about and feeding themselves, and they have now five more in the nest. The young are all true to colour. In the aviary with the Yellow Budgerigars are Bullfinches, Canaries, Zebras, Spice Finches, various species of Weavers, Whydahs, Gouldians, Silver Bills, Avadavats, one Black-throated Cardinal, one Goldfinch, and a Pileated Finch.

The Bullfinches I have had two nests from, but they never fed the young.

Of Canaries I have two hens and one cock; both hens have nested, one has brought up six young ones, two of which were killed as I stated before, the other brought hers up for a time and then left off feeding them.

I have also had several nests of Silver Bills and Zebra Finches. Of course the breeding of the above various species is a commonplace experience enough, with perhaps the exception of the Rosellas, and I should hardly have thought it worthy of mention except for the fact that, contrary to what we are constantly being told by the Russ school of aviculturists, all my successes have been achieved without egg; but what I am most pleased with is having bred the Spice Finch. Curiously enough I never knew they were breeding until I wanted to shift a box to make a little alteration in my aviary. Commencing to take it down I saw that one of the Weavers had bound some hay about it, and on pulling that away, to my surprise I also pulled away a portion of a nest inside the box, and two young birds along with it. Not knowing what they were I put them back again and watched for some time, when I saw a Spice Finch fly on a perch about two yards away from the box and suddenly fly as swiftly as possible into it. After this I kept careful watch and found the Spice Finches systematically going in to feed.

I have now three young ones flying about. They are of a uniform darkish brown colour on the head and upper parts, wings, and tail, lighter on chin and breast, shading off to almost white at the vent. The beak is black, and the feet and claws very pale brown, the latter being the darker. The box is about eight inches long and 4½ inches wide, with a hole cut in one end: the nest is built with a few pieces of stick and the rest hay, and with no lining. When I found out they had young, I got some flies and mealworms and put into the aviary, but although I watched continually I never saw them take anything but seeds; when I got a tuft of grass in seed and put that in the aviary they would fly down to it, but so would the other birds and therefore I don't expect they got much of it.

I believe mine is the third authenticated account of breeding the Spice Finch. I imagined I was first in the field, but on enquiry I find Lady Dunleath bred this bird in 1901 and Mr. Gill in 1902.

The Wild Canary.

(Serinus canaria).

By W. Geo. Creswell, M.D., F.Z.S.

(Continued from page 131*).*

Descriptions of birds are always tedious when fairly explicit, and generally meet with the fate of being skipped by the reader; but feeling that this chapter would be incomplete were I to omit one of the bird under notice, I therefore give the following particulars.

Above, ashy brown, washed with yellow and streaked with blackish brown down the centre of the feathers. *Rump*, uniform olive yellow. *Lesser wing coverts*, olive yellow. *Median and greater wing coverts*, black, edged with yellow, the latter tipped with whitish. *Bastard wing and primary coverts*, black, margined with ashy yellow. *Quills*, dark brown, edged with ashy brown tinged with yellow on primaries.

Upper tail coverts, ashy brown, washed with olive-yellow and with darker brown centres. *Tail feathers*, dark brown, edged with ashy brown tinged with yellow.

Crown of head, olive yellow, streaked with blackish centres and slightly washed with ashy. *Forehead*, dull golden yellow, extending backwards over the eye. *Lores*, dusky yellow. *Eyelid and side of face*, dull golden yellow, with a dusky streak across the lower ear coverts. *Cheeks*, dull golden yellow with a dusky malar stripe. *Throat and under body*, dull golden yellow.

Sides of upper breast, ashy grey. *Flanks*, more ashy, and streaked with black. *Lower abdomen, thighs, and under tail coverts*, whitish. *Under wing coverts and axillaries*, pale ashy, washed with yellow.

Generally speaking, the above details, taken from the Catalogue of the British Museum, and in which it will be noted there is no mention of green, apply to the hen also, except that she is a little browner and has less yellow on the forehead and sides of face; the breast is also greyer than in the male.

In structure the bird is stoutly built, and this appearance is greatly helped by the relative shortness of the tail in comparison with the domesticated varieties. The toe nails are short and small, and, as in most wild birds with perhaps the exception of the Mannikins, seem to show little tendency to grow in captivity to the length found in the products of artificial selection: in colour they are black, and the feet and toes brown.

The total length of the bird is stated by Dr. Sharpe to be from 4·55 to 4·60 inches. Swainson's measurement of a "native specimen" obtained from Sir W. Jardine is recorded by him in Part III. of *Animals in Menageries* as 5¼ inches, and he further says that the tail, which is "distinctly forked," measures 1⅕ inch beyond the wing tips. Between these two measurements there is a considerable discrepancy, but this can be accounted for, firstly by the fact that there are constant variations in all wild species, and secondly by the probability (from his wording) that Swainson's was a live bird, while Sharpe's were probably only skins. My own measurements of living specimens so far accord more nearly with Swainson's.

To revert to the question of colour; one would not be surprised, judging alike from the analogy presented by other birds and from the marked differences, ranging from mealy buff to deepest yellow, observed in the modern artificial evolution of the Canary, to find that in the wild bird there is more than one shade or depth of yellow. On this subject we may refer to an interesting letter from the pen of Mr. F. S. Weinberg which appeared in the *Feathered World* sometime about 1898, and which I can do no better than quote from direct. He says:—"when I was at Puerto Orotava in "Teneriffe about ten years ago, I came across a man "who, in addition to his trade as dealer in curios, kept "a large stock of the native Wild Canary, and among "those I saw with him, about 80 to 100 birds, the "jonque form was not uncommon, and among six "pairs which I brought home at the time, there were "three or four jonques. The birds unfortunately died "without issue, probably from faulty management, as "in the islands they breed very freely in confinement, "both among themselves and with the domesticated "Canary as we know it."

In the *Avicultural Magazine* (Vol. I., New Series) the Rev. H. D. Astley contributes some interesting notes on this bird. During a visit paid by him to the Canary Islands in 1901 he found it to be a common cage bird in Santa Cruz, and a still commoner bird at large. He says:—"At first sight a flock of these "birds might be mistaken for a flock of Linnets when "flitting from tree to tree, or gathering together on "the rocky ground, picking up stray seeds of various "plants.

"In January and February, some of the Canaries "have already paired off on the lower ground of the "Island, whilst hundreds of others are still in large or "small flocks; and a very pretty sight and sound it is "to see perhaps hundreds of these little greenish-grey "birds sitting on the still bare stems of a large fig tree "amongst the wild desert-like ground, bestrewn with "tufa and lava, and to hear probably twenty male "birds all twittering and singing together, whilst "others give vent to many a 'tweet,' bringing back "nursery days and one's first cage pet.

"Turned towards the sun, the males are easily "recognisable by the bright touches of yellow on their "breasts. And whilst this wintry scene of gathered "birds is going on, many pairs have stolen away from "that tuneful concourse (which makes one think one "is in close proximity to a vast aviary or Canary "breeding establishment), and already in January are "building a compact nest of moss and interwoven "grass and lining of feathers, perhaps amongst the "top branches of an orange tree in some garden.

"The scene is wintry only because of that flock-"ing together and assembled concourse of fluttering "wings, and in no other way, for the usual January "temperature . . . . . is somewhere about 60°."

He also tells us in the same article, and in a letter in Vol. VIII. of the same Magazine, that the female is used in the Islands for muling with what the natives call a "Cardenal," but which is really the Hooded Siskin (*Chrysomitris cucullata*) of Venezuela and Caracas, a startling looking little bird with a body of brilliant deep orange red colour, relieved with dark wings and tail and a jet black head. The resulting product, in native parlance a "mista Canaria," i.e. a mixed or hybrid Canary, seems to follow the mother rather than the male parent, for it looks as though an ordinary wild Canary had been "dipped in a dye pot of saffron orange." It resembles the Canary also "in "form and size and carriage, and indeed in voice too; "the 'sweet' of the Canary is unmistakable," and the Canary's song "is almost exactly reproduced."

A circumstance attaches to these mules which can almost be regarded as a peculiarity. I will quote Dr. Hopkinson where in Vol. III. of *Bird Notes* he is describing the aviaries of a lady in Funchal. Speaking of a specimen of the Hooded Siskin he saw there, he goes on to say:—"With him were some lovely mules "bred between him and a hen common Canary, whose "plumage distinctly followed the father, the red predominating, while the black was represented by "greyish tinged with green. More interesting still "was a hybrid of the second generation, that is a cross "between one of these Hooded Siskin-Canary mules "and a hen Canary, a grey brown bird with only a "pale tawny orange patch on its breast." These second generation mules it will be seen are like the mules described by Mr. Astley.

In the same paper Dr. Hopkinson incidentally mentions that in these aviaries he saw Wild Canaries on their nests.

From all the above extracts one would be led to think that the Wild Canary was easy to keep and a free breeder in cages under *any* conditions, but such an opinion would require to be modified, for the lady in question—the breeder of the hybrids—says, in a letter she was good enough to write to me, ". . . . in my "experience, and that of many others, they take very "badly to cage life and seldom live long in confinement *unless* they have been brought up by hand. "Those in my aviary, with one exception, are birds "that were thrown out of the nest when quite small "during a violent gale, and which I succeeded with "very great trouble in rearing. They are now two "years old. The exception, a very handsome male "bird, came constantly flying round the aviary, and "finally went into a cage which had been left hanging "out by chance. This bird was, and is, so very tame "that I fancy it must have been already caged."

The apparent discrepancies between the foregoing accounts, in so far as they affect the question of the breeding of the *hen* Wild Canary in captivity, can in my opinion be explained very easily. Mrs. Reid's experiences as to the bird are certainly at first hand, and therefore would appear to be reliable. She has lived many years in Funchal, and is an aviculturist of great keenness and also an intense lover of birds and student of their habits when wild, and should know all there is to be known of the capabilities of the Wild Canary. It will be noted that her males were from hen "common" Canaries, which as we have seen are exceedingly favourite birds among the dealing section of the islanders; and since these same people are not above selling thousands of these little German birds to unsuspecting visitors as specimens of the real Simon Pure, and as at any rate these domesticated birds would be much more certain breeders in cages than the wild hens, it is not difficult to imagine the wily breeder using them in his hybridizing operations, and then striving to enhance the value of their progeny by asserting a feral pedigree on both sides, an attempt in which they would of course be aided by the usual reversion to type.

And yet the female Wild Canary must be capable, at any rate sometimes, of breeding in captivity, or else how could the domesticated form have ever come into existence? The truth evidently lies between the two extremes suggested by the foregoing accounts. As with other serins—as indeed with most other wild birds, the generality of the hens are not to be depended upon in captivity for either building, laying, or rearing, while here and there individual specimens will be found to succeed in all three.

My own experience in this direction has been confined to the behaviour of the male bird, and I should think that he may safely be regarded as generally a very free breeder—although through a chapter of accidents I did not succeed in rearing any young myself. After much search and enquiry I had secured two cocks for the purpose of experiment. My idea was to mate them to small compact common hens, and then in the following season to the progeny of what we may call this first "cross," and so on for a year or two in the hope that by continuous selection I might ultimately possess a strain of birds combining the complete physical characteristics of the wild bird with the readiness to breed of the domesticated variety on the part of the females.

The first bird was one of two which had been caught near Brighton, and described as Citril Finches by the captor. Through the kindness of Dr. Hopkinson, the purchaser of one of them, I became its possessor. Whether it had strayed to our shores in a gale of wind, or whether it was an escaped prisoner will never be known, but that it was a genuine wild bird is quite certain. The other, which I obtained almost directly afterwards, had been imported privately and direct, and was very kindly lent to me by its owner, a gentleman in the West of England.

On their arrival, in order that I might study them with the greater accuracy, I caged them, keeping each alternately for a few days in my bedroom and study. As cage birds they were charming. While their gait and perch action shewed that indescribable something which to the experienced eye so effectually marks off a wild bird from the domesticated Canary, their steadiness and docility were beyond all praise. And while their song was practically that so familiar to us all, it was yet quite different. The sweetness of its tone was ineffable, some of the notes being perfectly ravishing and utterly unlike anything in the song as handed down among any of the evolutionary products of artificial selection.

And now to my chapter of misfortune and disappointment. The borrowed bird had been largely—indeed, speaking only from memory, I think nearly entirely fed upon hemp seed, with the idea of keeping him in song. As a consequence of this he was evidently in possession of a liver in a state of pronounced chronic congestion, even if it was not already a victim to structural degeneration, for though he sang sweetly enough, he was not so sprightly nor did he sing so continuously as my own bird, and when still he generally sat with puffed out feathers. On putting him eventually into an outside aviary with two hens I never saw him make any advances to them whatever, and although the latter built nests and laid between them one or two clutches of eggs, all these proved infertile. He apparently became neither better nor worse in health during the next few weeks, and was at last returned to his owner.

My own bird, located in an adjoining aviary, unfortunately had for companions two rogue hens. Both of them went to nest about the same time, and both hatched four eggs in the first round. Imagine my delight at seeing eight tiny morsels as dark as Erebus, all with uncertain efforts holding up a tiny mouth to be filled; and then try to imagine the depths of my impotent rage when through hunger these efforts became more and more uncertain and finally ceased altogether. No foster parents had I handy at the time to whom I could depute the neglected task of these unnatural beasts of mothers, and I had to see the precious bantlings die. At this moment however, I had in one of those small garden cages, designed for a single pair of pigeons while breeding, a Norwich hen of proved reliability with youngsters a fortnight old. I therefore withdrew her lawful husband and substituted my Wild Canary, in order that her next nest might be connected with him. But the "best laid schemes of mice and men gang aft agley"—the first time I opened the rather large door at the end to change the drinking water my charming friend flew straight out past my shoulder, made no short halting flight into the nearest tree or bush, but swiftly sped a bee line between the apple trees across two gardens, mounting higher the farther he flew, till at last he lodged at the top of a lofty elm. There he sat and sang: to me, who faintly heard with blunted mind and silent tongue, it seemed he sang for hours,—and there ended the First Lesson from the book of the Wild Canary.

The Rearing of the White-throated Finch.

(Spermophila albigularis).

By the Rev. C. D. Farrar.

Quand on n'a pas ce qu'on aime, il faut aimer ce qu'on a; which being interpreted means, if you cannot get just what you want you must be content with what you have. I felt like that when I commenced bird keeping again after an enforced absence of two years through illness. Was it not Sir Walter Scott who was fond of saying, "Thank God, all good things are common!" When therefore I one day saw an advertisement of a pair of White-throated Finches for sale, I wrote off at once. You may ask, "Why did I not wait until the next day?" Because next day anything may happen. When the true sportsman sees a trout jump within casting distance of him he does not wait until next day.

Some folks are fearfully slow to see which way their noses point; I hope I am not, for when chances come my way I always take them. It was the proud boast of Hector that he always stood foremost in the battle, not that he had someone behind him; and so far as I know White-throated Finches had never yet been bred in England. In the words of the Ancient Mariner, why should not I be

> "The first that ever burst
> Into that silent sea?"

I determined, at any rate, to make a good try for it. The chance of doing something exciting is a chance I have never the strength of mind to resist.

Only at Whitsuntide I had met with a bitter disappointment. My Bearded Tits had gone to nest, laid, hatched, and despatched two fine youngsters at a week old; as I carried these little corpses into the house to show to my "apparently" sympathising relatives, I felt so dejected that I was reminded as I looked in the glass of the 'Ruined Gambler' in the celebrated picture of that name. So near had lain the Promised Land, and yet like Moses I was not to reach it.

With the coming of the White-throated Finches hope once more set her bow in the cloud. All last year they spent their time eating and drinking and enjoying life. Once or twice they did fly more or less excitedly about the aviary, as though searching for a suitable nesting-site, but it all ended in smoke.

This year the season was well advanced before the minds of my White-throated friends

> "Lightly turned to thoughts of love."

But when they did turn there was no mistake about it. Up to now, I had always thought them a pair of nice peaceful little things, suitable for illustrating Dr. Watts' otherwise rather faulty natural history. The hen, more especially, became a regular little termagant, and clearly appreciates the advice given to a young Frenchman by his father on going to England. Tu es bête, et tu n'est pas beau, sois insolent, c'est ta seule chance. She, at any rate, acted on this advice; in fact she simply cleared one end of the aviary, and no other bird dared go near. If they ever did, they were received with an angry rush and a sound like that emitted by an exaggerated and very angry bumble bee.

The spot selected for the nest was, to my eyes, about the most unlikely that could have been chosen; right up against the aviary south window, in the full glare of a July sun. The nest itself is a most lovely structure; so fine and cobwebby that the light shines through it, and yet at the same time intensely strong. It is composed of fibres on the outside, lined inside with hair combings which I got out of the bedrooms. It was constructed very high up in a bush, near the roof of the aviary. So terrible was the glare from the sun that I felt that something must be done to protect the nest, eggs, hen, and young when hatched, or there would be no results, only hard-boiled eggs at best. I accordingly nailed a large bit of felt over the glass of the window outside; a thoughtful attention, I hope appreciated by the little hen. At any rate, it did not disturb her in any way. The nest was finished in about three days, and the eggs duly deposited. Birds, we are told, like their nests examined and the eggs taken out, but I'm a bit like the Scotchman who said of himself, "I'm open to conviction, but I'm a dour devil to convince." I should just like to have taken a "pep" as we say up here, but at the imminent risk of something inside giving way under the strain, I restrained myself, and was rewarded later on, as you shall hear in due course.

Every morning when I entered the aviary I used to send search lights of scrutiny around, and was always thankful to see the little hen on the nest, with her tail in the air, and her soft black eye fixed on me, as much as to say "All's well, we are going to pull it off"; and behaving as if I was of no more interest to her than Alexander was to Diogenes.

At the end of twelve days I fancied I saw the hen slowly and cautiously lift herself up in the nest and wriggle, as though engaged in feeding something. I hoped hard, but still I feared it might only be my fancy or strongly imaginative powers, especially as I never saw the cock go near the nest. Day after day I watched closely and felt more and more sure that the same stealthy motions were repeated; and after a time I was almost sure I could hear the unmistakable sound of very young birds' voices. Then one day I saw Mrs. hen on the edge of the nest, and stooping down to something within; and then I felt sure that the eggs had hatched, and that there were babies aboard. Now I knew that my troubles would begin. It is comparatively easy to get a nest built, a good deal more difficult to get eggs laid, harder still to get them hatched, but hardest of all is it to get the babies reared. There are so many slips between that cup and that lip! I speak with feeling. I had left some ants' eggs in a saucer for the insectivorous birds, and one day I caught Mrs. White-throat on the saucer busily stowing away eggs. Her mouth full, away she flew to the nest, and I heard quite plainly the sound of youthful voices 'asking for more.' Clearly White-throated Finches, like Nonpareils and Indigo-birds, were insectivorous as far as rearing their young was concerned. I knew from past experience what that meant, and I prepared myself for 'the easy grace which makes a joke of toil.' I realized that for a few weeks I should require no more exercise than they could give me. The worst of it was that being late in the season, and very wet, the ants, those uncanny beasts, had almost ceased to lay. I wrote off post haste to my friend Mr. Watson, and besought him, as he loved me, to offer the calves of his legs a willing sacrifice in the nearest ant-heap he could find. He gallantly rose to my request and though, as he said, 'eggs was wery scarce,' he would do what he could to help me.

I felt all the same that as eggs were so scarce the most rigid economy must be practised—not a very easy thing in a large mixed aviary. Imagine then my feelings when next I replenished the saucer to see a hen Yellow Sparrow hop down and begin her unholy labours on my tiny store.

After some days I noticed that the cock began to visit the nest, and soon his journeys were well nigh incessant. Every few minutes he would be popping in and out of the nest, like the figure in a cuckoo clock. Down to the saucer he would fly, fill his beak, return to the nest, and then away like a bee that is seeking fresh honey. How many times an hour those birds returned to the nest I should be afraid to say. I should think on the average they came every minute for eight or nine hours on end. Picture that, and then calculate the amount of food consumed, and what it means to rear a nest of insectivorous or semi-insectivorous birds; and, mind you, nothing else but insect food will do. If the saucer happen to be emptied, the moment I entered the aviary there would be the cock and hen clinging to the wire or hopping uneasily about, saying as plainly as they could by their actions, "Now then, where are those eggs?"

Time passed, and day by day the *voces clamantium* grew more and more insistent, and my spirits rose correspondingly. Only late on in the evening did the feeding cease. At last there came plethora, and each little bird felt as the Earl of Chatham did, when he remarked, after the enjoyment of a good dinner, 'Pitt's full.' At about 8.30 each evening pa and ma would fly merrily away, with doubtless "the gratifying feeling that their duty had been done."

The first youngster left the nest on Aug. 3rd, and the second on the following day. They were funny little things, about half the size of their progenitors, with light brownish plumage, white waistcoats, darkish legs, lead-coloured beaks, black eyes, and queer little bob tails. Both parents were most attentive to their every want, and woe betide the bird that incautiously ventured too near them, they soon departed with a flea in their ear. The two little things would sit as motionless as statues for hours on end, except when being fed, when they kept up a continuous plaintive cry. The old birds always got above them to feed.

The White-throated Finch has very little voice. The hen has a solitary chirp something like a Sparrow. The song of the cock reminds me of a remark of Kingslake's, when listening for some time to the zither, "I like that music, it is almost as good as none at all."

With regard to food these little birds are very easy to please: they prefer white millet, then canary seed, and, if you can get it, flowering grass comes first of all Cuttle-fish bone they much appreciate.

I have had the nest photographed as it is such a beautiful structure—so strong and yet apparently so fragile.

The eggs are rather large for the size of the bird, and very much resemble those of our garden Sparrow. I took one out of the second nest, after I was sure of the first youngsters, otherwise nothing would have induced me to look.

The little hen is sitting steadily as I write, and will no doubt bring off another brood with luck. Blessings never come alone!

The Brazilian Hangnest.

By M. E. Baker.

THE Brazilian Hangnest makes a charming and interesting pet, either for cage or aviary. The male is a lovely bird, bright gold and black in colour, with a patch of white on each wing.

My bird, which I have had about four years, is very bright and lively, full of fun and mischief. When first he came into my possession I kept him in a large cage in the house, which I carried out into the sunshine on fine days. One morning I found him lying helpless at the bottom of the cage. On examination I saw that one of his legs was very badly injured, being broken near the thigh.

I made a large soft nest of moss in the bird room, and placed him in it, putting food and water near. He remained undisturbed for three weeks, when he was as well as ever.

When he had quite recovered I let him live in the bird room with the little Waxbills and small finches, and although he is a large bird he never hurts a little one. He now lives in an outdoor aviary, where he delights every one with his sweet song and amusing ways. He sings splendidly, very loud and clearly: always before a storm the song is louder and more continuous than on other days.

I do not give any egg food, but feed him on bread and milk, sweetened with sugar. He also has insects of all kinds, fruit and green food, such as lettuce, groundsel, etc. His favourite fruit is orange, of which he eats a good deal. He is also delighted with an earth worm, the larger the better, which he serves very badly before eating. Taking it up to the highest bough in the bird room he places one foot on it and hammers it with his beak until it is quite soft, then tearing it up he swallows it bit by bit.

The Brazilian Hangnest is quite an ornament in an aviary, and he becomes so tame and confiding that as a pet I can thoroughly recommend him.

A Bibliography of Cage Birds.

Up to A.D. 1900.

By E. Hopkinson and W. Geo. Creswell.

In compiling the following list of books devoted to aviculture, we are fully conscious that there must be many omissions, but hope in time to fill the gaps, and to correct the possible errors which may have crept in. We shall be grateful for help in this direction, viz. for particulars of works which should be included and for further details as to those about which our information is imperfect. For convenience the list is brought up only to the end of 1900. Such books as have appeared since that date we hope to give particulars of in a supplementary paper.

Our design being only to include works published in English, we are debarred from inserting the Classics of Cage Bird Literature, viz. the works of Bechstein and Russ, which are only represented here by their English versions. These, at any rate in the case of the latter author, give but a poor idea of the fund of information contained in the originals.

A great number of the books mentioned we have been able to examine ourselves: for particulars regarding many of the others we are chiefly indebted to the German Zoological Bibliographies of Engelmann, Carus, and Taschenburg, which include all works in the different branches of Zoology published between 1700 and 1880.

Adams, H. G. **Favourite Song Birds**, being a Popular description of the Feathered Songsters of Great Britain etc.
8vo. With 12 *coloured plates. London.* 1851.
Originally published in 12 parts with one plate to each part.
See also various editions of Bechstein, 1853 onwards.

——— **Cage and Singing Birds**, How to catch, keep, breed, and rear them, with full directions as to their Nature, Habits, Food, Diseases, etc. etc. With illustrations.
Small 8vo. *London : Routledge & Sons.* N. D.

ADAMS, H. G. and H. B. **The Smaller British Birds**, with Descriptions of the Nests, Eggs, Habits, etc., etc., etc. Illustrated with Coloured Plates of Birds and Eggs.
4*to.* *London : Geo. Bell & Sons.* 1874.

ALBIN, ELEAZAR. **A Natural History of English Songbirds**; a new edition, corrected with several improvements under the article of Canary Birds.
With 22 *plates.* *8vo.* *London.* 1778.
Earlier editions, 8vo., London, 1737, 1747, 1759.
12mo., Edinburgh, 1776.

ANDREWES, THOMAS. **The Bird Keeper's Guide, and British Aviary.** How to rear and keep them in Health, and how to preserve them when dead. New Edition containing Addenda on the various breeds of Canaries.
Coloured frontispiece, 1/-. *Or with* 20 *pp. of plates, male and female of the several varieties, with their eggs, cloth* 2/-.
London : Dean. N. D. (About 187—).
This was probably a new edition of the Bird-Keeper's Guide of 1876; q. v. under the heading "Anon."

ANON. **Singing Birds** (History of), containing their Habits and Customs, Manners of Constructing their Nests, Times of Incubation, Songs, Rearing of them in cages, Food etc. Numerous copper-plates. *Fcp. 8vo.* *Edin.* 17—.

——— **The New General History of Singing Birds**, including the methods of breeding, managing and teaching of Songbirds . . . . . . extracted from the most curious naturalists, virtuosos and travellers, ... illustrated with about 400 figures. 2 *Vols.* 340 & 314 *pp.* *8vo.*
London : Osborn. 1744.

——— **Natural History of Singing Birds**; particularly those species of them most commonly bred in Britain, by a Lover of Birds. Copper-plates. *Post 8vo.*
Edinburgh. 1766.

——— **History of Singing Birds**, with the method of rearing them in cages; the preparation and choice of food etc.; also the disorders they are subject to, with the mode of treatment, including the history and management of Canarybirds. With plates. 12*mo.* 4/6.
Edinb. & London. 1791.

——— **History of Singing Birds,** particularly those species most commonly known in Britain, by an Amateur. 15 col. plates. *Post 8vo.* 1825.

? a reprint of the book by "A Lover of Birds," 1766.

——— **The Canary,** Goldfinch, Greenfinch, Nightingall (*sic*), Lark, Titmouse, Redbreast, Linnet, Yellowhammer, Wren; how to rear and manage them in sickness and in health. 12*mo.* 1/-. *London: Bickers & Bickers* 1862.

Probably by Kidd.

——— **Parrots,** Parrakeets, Blackcap, Redstart, Mockingbird, Raven, Jackdaw, Jay, Starling, Magpie, Chaffinch, Bullfinch, Siskin, and Hawfinch; how to rear and manage them in sickness and in health. 12*mo.* 1/-. *London: Bickers & Bickers.* 1862.

——— **The British Bird Fancier,** containing instructions for Rearing, Feeding etc. Singing Birds, Best Method of Curing them of Distempers, The Art of Teaching them to Sing to the Greatest Perfection. *8vo.* 12 *pp. With* 5 *woodblocks.* -/1. *London: W. S. Fortey.* N. D.

This pamphlet is a reprint of one of the earlier treatises.

——— **British Song and Talking Birds.** How to Rear and Manage Them. Coloured and other illustrations. *8vo. pp.* 33 to 128. *London: Ward, Lock, & Bowden.* N. D.

——— **British Song Birds,** how to rear and manage them. With many illustrations. *8vo. pp.* 129 *to* 256. *London: Ward, Lock, & Co.* N. D.

Note the pagination of these two books.

——— **Bird-keeping:** practical guide for cage-birds. 12*mo.* 1/-. *London: Warne.* 1868.

——— **Birds and Bird-keeping.** Their Habits and Management. With illustrations. *Small 8vo.* *London: Fred. Warne & Co.* N. D.

This consists of the above "Bird-keeping" bound up with "Outdoor Common Birds," the whole in cloth gilt. One of the volumes of The Country Library.

——— **The Parrot-Keeper's Guide;** with the Natural History of Macaws, Cockatoos, Parrots, Lorries, Parrokeets, and Lovebirds etc. Col. plates. *Fcp. 8vo. London.* N. D.

Probably—Marriott's, 1870.

——— **The Bird-Keeper's Guide and Companion.** Containing plain directions for keeping and breeding Canaries, and Goldfinch and Linnet mules, and all other songbirds, as well as practical recipes for the treatment, and cure of those disorders to which they are liable, with the best method of prevention. 12*mo.* 1/-. *London: Dean.* 1876.

—— **Commonsense of Canary Rearing.**
16*mo.* 4*d.* 77 *pp.* *London : Spratts Patent.* N. D.

This was written for Spratts Patent by J. North in 1892. A second edition has been issued, price 3d., including other cage birds, but with only pp. 68.

(*To be continued.*)

Post Mortem Reports.

(*Vide Rules*).

BICHENO FINCH. (Mr. Fillmer). There was a pneumonia of both lungs. This disease is very prevalent during the hot months.

BUDGERIGAR. (Mr. Cook). For a couple of days this bird had been occasionally "twisting round and over as if it had a fit." This was an attack of epilepsy, and was the cause of death.

CANARY. (Mr. Picard). Three weeks old. Septic enteritis caused its death. It was thin, and the previous inability to stand on its feet was the result of debility induced by the illness. When a young bird is observed to sit on its heels and to struggle in its attempts to get about, it is only a kindness to kill it. Recovery in such a case is very rare, and the bird cannot be fit for much even if it occurs.

CHESTNUT FINCH. (The Hon. Mary Hawke). Died of pneumonia.

ZOSTEROPS. (The Hon. Mary Hawke.) This bird died of injuries to the brain, having been pecked on the head. With regard to the Pheasantry—the ground may *look* all-right and yet be swarming with the bacillus of "Cramps."

CANARY. (Miss Gibbons). Too decomposed for examination.

[I regret that owing to their having been sent during my holiday, (vide notice to Members in the July issue), five birds belonging to four members were not examined.]

W. GEO. CRESWELL.

Letters to the Editor.

MR. FINN ON CHINESE AVICULTURE, &c.

SIR,—Dr. Creswell says in the June number of *Bird Notes*, "Java Sparrows have been bred in cages from time immemorial in China and Japan. Mr. Finn and Mr. Heselton both tell me the inhabitants of these countries never by any chance use egg food for their birds."

In Volume II. of *Bird Notes* (p. 224) Dr. Creswell said "Mr. Frank Finn tells me that the Chinese, who, as he says, know practically all that there is to be known respecting the keeping of cage birds, never give egg to insectivorous birds."

I have never said to Dr. Creswell or any one else that the Chinese never give egg to birds; nor have I said that the Chinese know practically all that there is to be known respecting the keeping of cage birds; nor have I made any statement whatever about the methods of bird feeding in use in Japan.

With regard to Mr. Fillmer's criticisms, I have not mixed up *Uroloncha acuticauda* with *U. striata*, as Mr Fillmer may see by referring to any good description of these birds. Both are dark brown above, but whereas *U. striata* has a pure black breast and white belly, *U. acuticauda* has a dark brown breast with lighter edges, and the belly pencilled with brown, at any rate at the sides—usually, in the specimens I have seen, all over. Dark-pied Bengalese often exactly resemble *U. acuticauda* except for the abnormal white feathers, and even cinnamon-pied ones show its characteristic markings in such parts of the breast, etc., as are not white.

It is not misleading to say that Goldfinches and Canaries require much the same treatment, for I was speaking about birds in aviaries. Indeed, I do not admit that my remark was misleading even with regard to caged birds, as I guarded against saying they needed *exactly* the same treatment, knowing their somewhat different requirements as to seed. Any fancier could give a beginner details.

My paper was not originally written for *Bird Notes* and was intended as a general guide for beginners in aviculture who wished to experiment. FRANK FINN.

What is practically a copy of the above letter has appeared in the August issue of the *Avicultural Magazine*. In that journal it was an easy matter to deal with, but in view of my position on this Magazine it is necessarily a matter of some delicacy for me to answer it here in the proper manner, and I greatly deplore the necessity for so doing.

In the first place Mr. Finn greatly discounts his repudiation by the tardiness with which it appears.

I first repeated his information in the issue of *Bird Notes* for Nov. 1903. To carry any semblance of weight his denial should have been forthcoming directly after this mention of his statement, made at a time, be it borne in mind, when my interview with him of a week or two back was too recent for its details to have been forgotten by either of us. Instead of this, his denial has been delayed for more than eighteen months (during which period I have more than once repeated his statement), and even now it only seems to have been called forth by the fact that his recent unqualified assertions as to the "need" of egg are found to clash with his former statement and its only possible inference. Surely there were better methods of extricating himself from an illogical position.

What Mr. Finn said to me was that the Chinese never gave egg in any form to any of their birds—not even the insectivorous ones; that all they gave was dried flies and husked millet, given dry; and that what the Chinese did not know about bird-keeping was not worth knowing.

Being told shortly afterwards that Mr. Finn had never been in China, and that in consequence his information was only hearsay, and being therefore anxious to test its value, I wrote to Mr. Heselton (who *had* spent a good deal of time in that country), stating what I had been told by Mr. Finn. He confirmed Mr. Finn in each particular save one—that relating to the dried flies. These he said he had never seen in China, maggots being used instead. He also made special mention of the Japs.

With the same desire to be accurate, and not wishing to be guilty of any inadvertent misrepresentation of Mr. Finn, *I had previously written to him also on the subject.* After having thus taken every conceivable precaution against error, a course in which it seems I was wise, I felt justified in quoting Mr. Finn, and shall do so again as occasion demands.

I find by a foot note attached by "A.G.B." to my letter on this subject in the current *Avicultural Magazine*, that a similar denial by Mr. Finn appeared in the *Feathered World* on June 30th, the same date as the above letter by him was posted to *Bird Notes*.

W. GEO. CRESWELL.

SIR,—I have no need to refer to any description of *Uroloncha acuticauda* and *U. striata*, for I am intimately acquainted with both species, and have kept both at times during the last ten years. I have an example of *U. acuticauda* now in my aviary, which has been in my possession some three or four years, and I have a skin of *U. striata* in my cabinet collection. I can only repeat that, in my opinion, while *U. striata* may be broadly termed "dark brown," *U. acuticauda* cannot be so described with any approach to accuracy. The dark feathers in so-called "chocolate" Bengalese are almost exactly the colour of the back of *U. striata*, and do not at all resemble the more rufous colouring of *U. acuticauda.*

I should like it to be understood that I do not commit myself to any theory of the ancestry of the Bengalese.

In one sense, of course, all small seed-eating birds require "much the same treatment," and if mixed together in an aviary they cannot have different treatment. But, as it happens, Goldfinches and Canaries differ in their requirements about as much as it is possible for any two members of the Finch family to differ. HORATIO R. FILLMER.

GOULDIAN FINCHES.

SIR,—If I may venture to offer a suggestion to the Rev. Mr. Farrar, I would point out that the Gouldian Finch, although a native of the sub-tropical parts of Australia, is eminently a shade loving bird, and that the direct rays of the sun are extremely prejudicial to it, even when the said rays are mitigated by the fogs and mists of our beloved Island; and that, perhaps, it is to Mr. Farrar's having lodged his Gouldians in "a little inferno" his want of success with them is due. A friend of mine, who has been very fortunate with these birds, kept them in an ordinary dining-room where there was no excessive light, but rather, I thought, a decided want of it. However, they did remarkably well there and even bred, producing three fine young ones from a comparatively enormous nest of bass and fibre which they built in a small dead fir-tree placed in one corner of their cage, which was about six feet long by four feet wide and high. As the opening into the nest was placed at the side of the cage next the wall, the interior of the erection must have been in complete darkness, yet the young birds hatched in it were perfect in every respect. When they first showed themselves outside their birth-place, the little Gouldian finches were of a uniform greenish grey colour, and had black bills and black legs and feet. Other friends of mine were equally unsuccessful with these birds, because they imagined that as they came from a warm part of Australia, they could not be kept too hot, and so placed them in the full glare of the sun on every available occasion, and lost them all. Afterwards when I had explained that the birds at home inhabited the densest scrub and shunned the direct rays of the sun, more care was taken to make their surroundings more congenial to their natural habits; the birds did better, and several of my correspondents wrote to me chronicling their good fortune in being able to breed these delightful birds.

As everybody knows, there are two varieties of Gouldian finches, one with a red and another with a black head, and many authorities have constituted them distinct species. That they are merely varieties of one species is proved by their interbreeding and producing a perfectly fertile progeny, mongrels, and not hybrids, which last are barren.

Possibly if Mr. Farrar will keep his Gouldians out of the sun he will find that they will do better than seems to have hitherto been the case in his aviary. I must, however warn readers not to conclude from the foregoing remarks that the Gouldian finch is a hardy bird, for although he dislikes sunlight, he cannot endure cold. W. T. Greene.

IS EGG NEEDFUL?

Sir,—Mrs. Askham's experiences, detailed in your July issue, seem to have been very conclusive as to the non-necessity of egg-food. If you will allow me I will recount my own.

In the early part of the season, when the birds first mated, I was very unlucky. One hen died and the rest seemed very disinclined to nest. At this time the birds were lodged in a small room at the top of the house.

Getting disheartened, I resolved to try the effect of the advice and general treatment as laid down so conclusively in "The Hygiene of Bird-keeping."

Having replaced the dead hen by another, I removed the cage, which was an ordinary three section breeding cage made of wood, into the garden, placing it upon a table close under a tall hedge facing East, and rigging up contrivances to protect it from the weather and cats.

From that time the birds gave no further trouble. There were three pairs, one in each compartment. Each pair laid four eggs. Seven chicks were hatched, three by one pair, four by another, but the eggs of the third pair proved infertile. All seven were reared to maturity upon a diet of plain canary seed, a little German rape, and plenty of green food.

In the second round the same good results occurred, every bird hatched being reared.

Practical evidence as to the soundness of the new teachings seems to be accumulating in various directions.

W. J. HENTSCH.

SIR,—*Re* the insectile mixture which you mentioned in your Editorial Notes of July as having been used by Mrs. Askham on your recommendation; I should much like to know if this was given to the parents when they were first paired up, or *at all before* the young were hatched. I should like to know this for my own future guidance, as I think the results in Mrs. Askham's case were simply splendid—fourteen young ones hatched and thirteen reared.

I might also take this opportunity of saying that the Goldfinch Mule I obtained from you, and which from birth had never had anything but seeds and green stuff, is a specimen to be proud of! I have never seen a stronger or more robust bird, nor one with tighter feather, or cleaner, or more sprightly.

G. MCADAM.

[This enquiry has been referred to Mrs. Askham, who says: "My Canaries did not have the insectile mixture before pairing, but after the first chicks were hatched they had a constant supply, and the young birds remained with their parents till the next lot were due to hatch."—ED.]

NOTES IN A GARDEN.

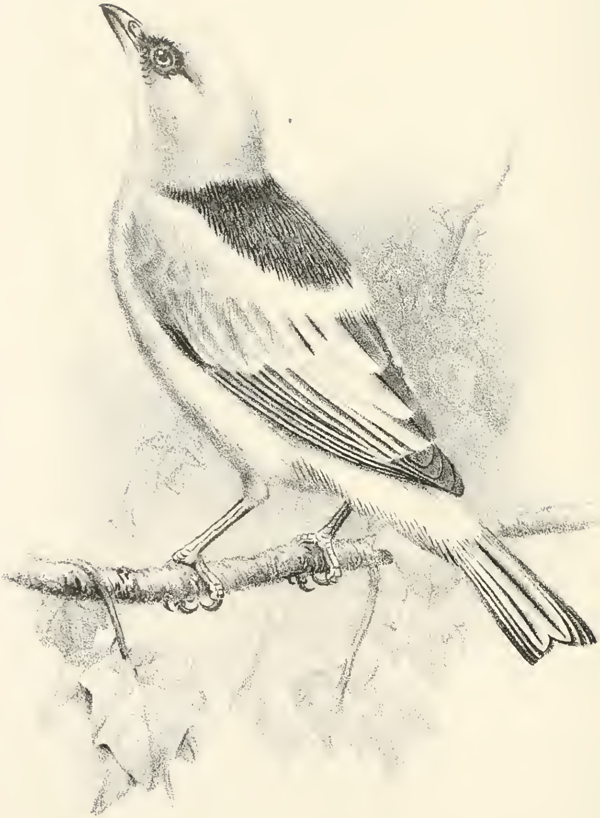
SIR,—It may interest your readers to hear that this year and last a pair of Hawfinches have built and reared their young in a thick bush, touching my garden aviary, which I am visiting many times a day. The nest is also close to a path used by the gardeners, etc., going to and from their work. We had no idea last year of a nest, till the bush was cut, which exposed the nest; the young had then flown, leaving one rotten egg. This year I once saw the old ones watching me from a tree close by; we then looked for and found the nest, which was left undisturbed.

There is also a nearly white Sand Martin about; it has been seen nesting with the others, and also in a grass field nearly a mile down the road.

I have hand-reared a brown Linnet, but not wanting to keep it, I turned it out of a window. It returned always to the same window, for over three weeks, to be fed; when satisfied it wiped its beak on the feeder's hand, and then flew straight out to the plantation. It came nearly every hour at first, then only occasionally, but is still to be seen, picking about among other birds.

It may also be interesting to hear that a Red-legged Partridge nested among the bracken on a rock, close to the garden path. When hatched, the young ones, somehow managed to fall, unhurt, down on the grass lawn below. This seemed to upset the old one so much that she flew off and never returned to them, in spite of the place being left quiet till quite late in the the evening. The youngsters were eventually collected and given to a poultry hen, who, as usual, squashed all but two, which were reared. I will just add to these notes, that my cock Rosella escaped from the aviary one day, and being a very wild bird, went off to the plantation, leaving his wife and young ones. I thought I had lost the nest, as the hen refused to feed the young ones by herself; but in the evening he returned to her call, and allowed himself to be caught in a trap cage. Is this at all unusual? The young ones are now fine birds, and I think I was very lucky. ROSELLA.

[Escaped birds have frequently been known to return to their mates in the breeding season after a few hours of freedom.—ED.]

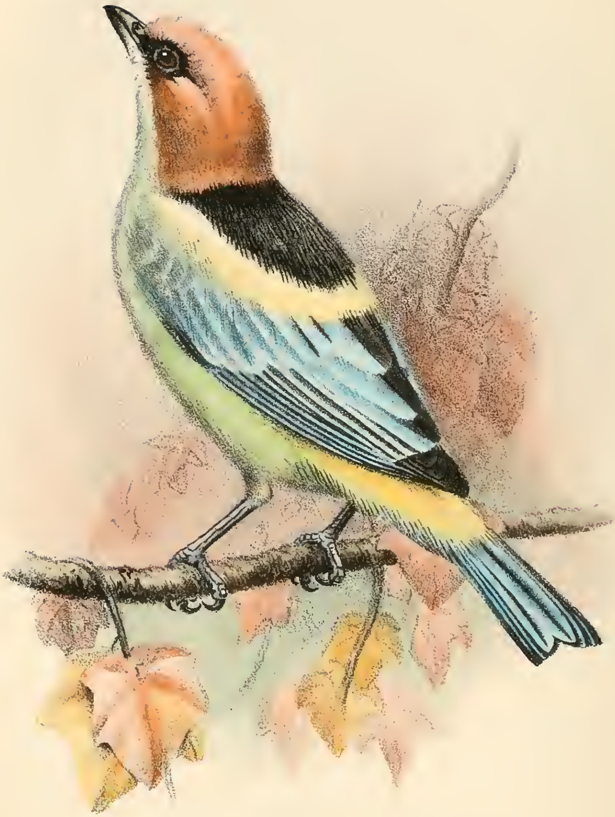


H. Goodchild, del et lith.　　A S Huth, imp

BLACK-BACKED TANAGER,

Calliste melanonota.

From life.



H. Goodchild, del et lith. A.S Huth, imp.

BLACK-BACKED TANAGER,

Calliste melanonota.

From life.

The Black-backed Tanager.

(*Calliste melanonata*).

By S. M. Townsend.

In October last I had a letter from a dealer asking me to call on him, as he had two very rare Tanagers for sale. I went, I saw, and I was conquered. One was the Black-backed Tanager, and the other belonged to the Euphonia family, but unfortunately it had a broken leg, and so I became the possessor of the Black-backed Tanager only.

When I first had him I thought the name Black-backed Tanager was very unsuitable, and did not describe the bird at all, as the black on the back decidedly wants looking for, whereas the colour on the head is very striking. I therefore almost decided to call him the Rufus-headed Tanager, but on second thoughts I came to the conclusion, that, as he had been identified at the British Museum, it would be misleading to do so, as he already had an English name.

The beauty of his colouring can be seen from the illustration, which Mr. Goodchild has taken great trouble to make perfect, but no living artist could possibly portray the different shades of the head when seen from different aspects, or reproduce the brilliant sheen, like burnished copper, when the sun is on it.

His staple food is fruit. When I first brought him home he would not eat anything else, and quite despised the insectile food, but now he will eat a little, and sometimes a little soaked sponge cake, but he is very fond of grapes and any small insect, such as a spider or small mealworm.

He was very wild and restless when I first had him, but is much more friendly now, and, when you are feeding him, takes a decided interest in what you are giving him. I have great hopes that when he gets over the moult, which he is in the middle of at present, he will be quite tame, as he is naturally a gentle, amiable bird, though like most Tanagers he is very timid.

His call note is somewhat plaintive and heard more often than from the majority of Tanagers in captivity—sometimes long after it has been dark. The first two or three times I heard it in the night I was afraid there must be a panic in the birdroom, but on taking a light in, found everything quiet, and the Black-backed Tanager hopping cheerfully about as if it was daylight. He has never sung with me yet, so I cannot say what his song is like, but judging from his call note I should think it is after the style of a wheel that wants greasing.

Another peculiarity he has is to use a plate. He has a piece of cuttlefish bone fixed crossways between the wires of his cage, and every tit-bit he gets he carries up to eat on this. It is very funny to see him in the morning, when he gets his fresh food, carefully selecting an ant's cocoon and carrying it up there to eat—it at least ensures a good deal of exercise. He is rather fanciful over his bathing, and thinks if he has a thorough soaking, it ought to last two or three days if he just washes his face in the water pot on the other mornings.

When I exhibited the Black-backed Tanager at the Crystal Palace Show last season, it was the first time one had ever been seen on the show bench, and he was much admired there, although he was by no means in perfect condition. As he was not very steady he had knocked his tail about in the show cage on the way, but since he is much quieter now I hope this will not happen again.

The Black-backed Tanager comes from Southern Brazil, which ought to class him among the hardiest of the Tanagers, but in my experience Tanagers that subsist chiefly upon fruit are not the longest lived.

Worms and Feathered Fowls.

By the Rev. C. D. Farrar.

As far as I remember, Mr. Burnand, who in *Happy Thoughts and My Health*, gives much information, curious and interesting, on earwigs and wasps, omitted that interesting creature—"the black clock." The cockroach is a *sine quâ non* in an avicultural establishment. Therefore, when taking a new house, always keep an eye lifting for humble necessary creatures. You may start doing so at once, which will postpone the catastrophe, not avert it, for the song will one day come true:

> "Some day, some day I shall meet you,
> Love, I know not when nor how!"

Perhaps, therefore, this being so, and watchfulness being a strain when done deliberately, and worrying being one of the worst things in the world, you may just as well let things slide down the time stream, till fate sends you a host of the wretches.

It is after dark that they come abroad. By day they lie low like Brer Rabbit when he had reason to suppose Brer Fox was after him. As darkness deepens they come forth by battalions and spread in open formation over the kitchen floor. Here and there in the gloom you see glistening black bodies, which an unsuspecting one might mistake for pieces of coal dropped by the domestic Abigail, but look closer and you will see that it is an "acies instituta" of cockroaches. To parody the lines of a well-worn obituary notice often appearing in the *Yorkshire Post*:

> "We see them here, we see them there,
> We see those beetles everywhere."

I always like to do so, just as a Yorkshire Squire likes to see a nice head of game on his land when September comes.

Cockroaches have no diffidence in their nature. They are distinctly companionable, seeking rather than shunning human society; nestling at the back of your boiler if the weather is the least chilly. The only thing they are averse to is light; on the principle I take it that their deeds are evil. Show a light in the kitchen, and at once there is a stampede for the cupboards, reminding you forcibly of the soldier's remark to the dying Wolfe anent the French—"they run"!

They are sometimes of great magnitude, though personally I have never met one that could stand on his hind legs and drink out of a quart pot. I don't disbelieve it, but I have no personal knowledge to go on. A friend assures me that he has seen such.

When we came here we were quite free of all insect pests, but incautiously I once expressed a longing for 'clocks.' My house heard me, and of course did its best, and now, as I am frequently reminded by the powers that be, the place fairly lifts with them. Like Pharoah's frogs they are everywhere, they even enter into the king's bed chamber. When going to bed late at night I have come across an elderly cockroach making *his* way upstairs to bed, and though I have 'never seen an oyster walk upstairs' I have frequently seen a clock do so.

When I am working late in the dining room I often hear a gentle rustle around my feet, very much like that gentle surprised sound you sometimes hear in Church when you tell people of their sins! It is only the cockroaches on the forage for unconsidered trifles. Some people—ignorant creatures—who do not keep birds, advise poison.

To begin with, it is a wicked waste, and I should like to see the insect powder that would disturb the digestion of a healthy Yorkshire cockroach. I *have* seen them a bit drowsy after a hearty feed of vermin killer, but not more so than some of my parishioners are after what they euphemistically call 'a glass or two.' The only proper end for the cockroach is a Demon Trap. He enters that with a good courage, and if nipped by hunger does not hesitate to feast upon a "weaker brother." He is not particularly frightened either, till morning. As you lift the trap he feels a bit uneasy, but run round never so swiftly, get out he cannot. Presently the trap is set on the aviary floor, and as bird after bird alights on the edge, oh, what a wild stampede there is, as round and round the gloomy trap, the frightened beetles run. Soon all is over, but I will draw a veil. Take the advice of the guide in Dante's *Inferno* when he came to some of the horrors—"Look and pass on."

Mealworms are simply invaluable if you keep soft-billed birds. In fact, like Pears' soap, you can't do without them, and the birds won't be happy till they get them. We are told that it is a vastly profitable game to breed mealworms. All you want is a jar, a few old boots chopped up, and a handful of beetles. Well, I have tried, and *crede experto*, it doesn't pay. It is like growing melons—they are very nice—but how much do they cost apiece? I have put in a handful of beetles, and after an anxious six months' waiting I have opened the jar to find less than I put in! Always buy your mealworms, it is far cheaper than trying to grow them. I don't know how they do it in Germany, but they certainly manage better than we do. Mealworms vary in price according to the time of year. They are cheapest about January. The cost runs from 6/6 a quart to as high as 10/-. To keep them in good condition, you must keep them warm; they are very chilly creatures, and soon die if exposed to quite a moderate temperature. I always keep my stock in a big biscuit tin in the kitchen cupboard.

Mealworms want feeding, strange to say, but not on dead birds and such like carrion unless you wish to kill the birds that eat the mealworms. I give mine nothing but bran and crusts of stale bread, and they are always fat and well liking. Never *wet the food.* If you do you will lose all your worms, and the smell will be appalling, and you will be indicted as a nuisance by the cook.

The gentle and necessary maggot should find a place in every home—at any rate where there are birds. I think I would hardly advise home culture. I speak from experience. Some years ago I tried breeding at home. I thought it would be cheaper than buying. I have since altered my views. I remember I told our butcher to bring us some lights, at the same time impressing upon him that we did not need them for domestic consumption. I shall never forget his face as he answered, "Oh, no Sir, I never thought you was going to eat them"!

A few mornings later the cook came to the dining room door, and with a sniff informed me that the butcher had left that 'stuff.' I believe her actual words were "I've brought Mr. Farrar's meat." Tenderly I carried it out to the first field, where I had an empty chicken house. I borrowed a meat hook from the cook and soon had the 'joint' suspended. The sun was blazing hot, and I knew that blue bottles would soon arrive. In a few days the smell in that field was so high that it reminded me of what John Leech once said anent another smell, "I think that stench is strong enough to sketch."

I once kept white mice. I simply adored them. The rest of the family alluded to my adored ones in no measured language and in the rudest way "as stinking little brutes." Well, my family said the same of the gentles. They said either the maggots should go or they would.

I got hold of a poor man out of work: bade him dig a deep hole in a neighbouring wheat field and bury the whole affair. Neighbours remarked for years afterwards that never had they seen such a crop of wheat. So ended my maggot breeding establishment, and ever since I have had to buy. What is the use of talking about "Home Industries and the Encouragement of the British Farmer"!

Just a word in conclusion. Without this triad—gentles, mealworms and cockroaches—don't try to keep soft bills, because it cannot be done. People tell you that mealworms are too stimulating, that they produce gouty feet and I know not what. Without them, birds won't long want feet at all. As for rearing youngsters; no matter what they tell you in books—the parents will absolutely decline to feed unless the supply is what Bret Harte calls "frequent and free."

Ants' eggs in season are invaluable. To get them is a painful operation, for wood ants can bite, like the very old gentleman, as we say up here, and formic acid is not exactly eau de Cologne; still if you keep birds you will offer your legs as a willing sacrifice, and you will try to be like the idols of which the Psalmist tells us that "they have noses and smell not"!

Wasp grubs are much liked by the birds, and if you can screw up your courage to the pulling up of the awful cold clammy things out of the comb you will be well rewarded. But as our country families say of their poor neighbours—"Really one must draw the line somewhere"—well, so I say of wasp grubs—I draw the line at them, and spiders! If my birds want them they must get them from somebody else.

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S. etc.

(Continued from page 118).

THE mention of inoculation in the last chapter naturally leads to a short notice of our subject in that connection. Remembering that in our experiments with sterilized yelk of egg, exposed for a minute to the air and then kept for a short time in an incubator at different temperatures, we found the generation of both Koch's and Davaine's forms of septic bacilli—identically as we find them in the organs of birds suffering from the so-called Tuberculosis, let us once more turn to the lecture by Dr. R. H. Clarke from which I have previously quoted. He tells us that if a little portion of egg containing these bacilli of putrefaction "is introduced beneath "the skin of a strong healthy bird, it will produce no "constitutional symptoms, but in a few hours there "will be a localized swelling at the seat of inoculation, "which in two or three days will develope into a cheesy "tumour, and eventually dry up and contract." He goes on to say that on examination this cheesy mass will be found to consist of "the debris of dead cells "containing few or no bacteria. The tumour is what "remains of the battlefield where a life and death "struggle between the invading parasites and the "defending force of (blood antitoxins and) living cells "has been fought out, victory resting with the latter, "which have however perished in defence of the "community. If the virulence of the bacteria has "been intensified by cultivation at a high temperature "in an incubator, or if they have been derived from a "victim of the epidemic form of the disease, there is "no swelling or tumour, the white corpuscles are "powerless to resist the invasion, the bird sickens, and "probably dies, of septic fever, and large numbers of "bacteria will be found in the blood, organs, and "tissues." *

Academic instances of inoculation like the above can only take place, through the limitations imposed by our laws, under strictly narrow conditions, and are therefore necessarily outside the experience of ordinary people, whether they be medical or lay: they are however worthy of our most careful attention. In the first place it is of the highest importance to realize that the introduction into the tissues of a fragment of hard-boiled egg, a substance which contains not one solitary bacillus, that can by any pretence be called a tubercle bacillus, but which does contain the ordinary bacilli of putrefaction, is followed by the development within two or three days of a cheesy nodule. Would any one have the temerity to say that such a caseous deposit was tuberculosis? And yet if nodules of exactly the same character, and produced by and containing similar bacilli, are found to exist in the tissues of a bird which has contracted them by infection in the ordinary way and not by inoculation, this one manifestation is held by our bird fanciers and others to be sufficiently indicative of tuberculosis to absolve the observer from the trouble of any further investigation!

In the second place, and quite apart from this intrinsic value, these experiments are of considerable importance in that they help us to understand the true nature of certain troubles which now and then happen spontaneously to our captive birds, and which I have never yet seen ascribed to their proper cause. If a bird becomes "ill and ailing" and capricious in its feeding, and in addition gradually loses flesh, while at the same time one or more of the distal joints of either one or both of its feet become swollen and red, it is usually said to be suffering from gout. On this

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* R. H. Clarke. *The Bird Plague.* Fur and Feather Office. 1898. Page 13.

assumption, based on the thinnest of analogies, and upon the fact that (for a reason to be presently explained) the bird is most often one of the soft bills, the prime cause is almost always asserted to be the use of mealworms as an article of diet. The argument is this. We believe that human gout is a disease dependant upon a perverted metabolism, and that it is associated with the existence of an excess of uric acid in the blood, and of the resulting deposits of bi-urate of soda in the tissues, more particularly the joints. We also believe that in this condition a highly nitrogenous diet is contra-indicated. We are also accustomed to find in typical cases a certain amount of inflammatory swelling in the joints, especially in those of the feet. When therefore the foot of a cage bird is swollen, especially, as I have said, if it happens to be a soft bill, we immediately assume *his* disease to be gout and the cause to be mealworms—as analogous to the butcher's meat of the human. One physician indeed has lately advanced a speculative theory that human gout is a bacterial disease, solely on the evidence of one fowl, (which, as shown in his paper, presented a perfect picture of Avian Septicæmia to anyone who has worked at avian pathology), because he found crystals of uric acid in the kidney! Considering that the urine of birds contains only a degree less of this substance than that of serpents, which is practically all uric acid (and therefore contains about a thousand times more than that of man) it would have been remarkable had he not found it present in that situation under any circumstances.

As a matter of fact these cases of "gout" met with in our cage birds are just cases of more or less localized septic poisoning of a comparatively mild and subacute form. A bird gets a minute crack in the fold of one of the joints of his toes. The cage floor swarms with septic bacteria, bred and fostered in the occupant's excreta. These effect an entrance into the tissues of the foot through the broken skin; a scab of caked excrement forms on the toe; and there we have all the conditions necessary to produce the redness and swelling known as gout.

If the bird is a soft bill this is still more likely to occur. Owing to his food being usually moist, and often —in popular language—on the verge of decomposition, his excreta are more profuse and considerably more sloppy than those of a finch, and the skin of his feet therefore tends to become soft and prone to excoriation. And when we remember that his food contains a considerable amount of animal substances, and that under the advice of those to whom birdkeepers look for guidance it is largely composed of egg—with its known property of intensifying the virulence of bacteria—we then recognize that his ordure is much more septic than that of the hard bill, and we can therefore hardly be surprised at the special prevalence of the so-called gout among birds of his kind.

The following case well illustrates the above remarks. A member of the Foreign Bird Club wrote to me in 1904 asking my advice in respect of a Nightingale and a Yellow Wagtail which had swollen feet, and saying *inter alia* that on advice which he had sought from certain sources he had stopped giving them mealworms, without however any improvement of the birds' condition. Feeling that it was impossible to honestly treat these birds without knowing what was really the matter with them, I asked him to send me one of the birds *in the cage in which it lived, and without any of the fittings or arrangements being altered in the slightest degree.* And this is what I received. A box cage of fair size, with the food and water both inside, and furnished with three smooth, flattened perches rather more than half an inch in width, the two end ones being so placed as to make it quite easy for the bird to soil the food and water.

Than such a cage, which I believe is specially constructed for Nightingales, nothing could well be worse, and to add to its insanitary horrors the tray was quite without sand, being covered instead with a sheet of paper, under the delusion that the changing of it once every day was an exceedingly sanitary procedure. The unfortunate Wagtail was almost a skeleton; its feet were swollen, with red and shiny joints, and its discomfort in trying to maintain a balance on the slippery perches, too wide for it to grasp, was painful to witness.

I immediately gave the bird's feet a good bathing with a hot saturated solution of boric acid, and then transferred him to an open wagon cage with the food and water in outside glasses, with half an inch of coarse river sand on the bottom, and furnished with three perches made of the roughest sticks, with the bark and knots left on, which I could find. The sand absorbed the moist discharges, and since it was changed every day, provided a comparatively dry and clean surface for the poor little bird to walk on, while the perches, being round, small, and rough, afforded a hold to his toes, and obviated the pain and irritation previously associated with the vain and never ceasing attempts to successfully grasp the smooth and flattened perch with rounded edges, which, because it is never found in the bird's natural surroundings, is thought by our wise men to be the correct thing for a bird in a cage. They evidently think that with the change from freedom to captivity the muscular system is changed as well.

At the same time as I put the bird into a more hygienic cage I changed the artificial rubbish which I found in his food vessel for something considerably more adapted to his organism, viz., plenty of mealworms and my ordinary mixture of dried flies, ant eggs, and unsweetened biscuit, given dry. The rest of the story I give in the owner's own words. In a week or two the bird was sent back, as the owner says, "practically cured. It was fatter, though still rather "thin, and the acute swelling of the joints was gone, "nothing remaining except a slight thickening of the "bone in one hind toe-joint. It is now going strong. "As soon as I got the advice I applied it to the Nightingale, and he almost immediately began to improve, "and is now completely well, though the disease has "left him minus a claw. Neither of the birds had any "medicine whatever."*

It will be seen that the cure of these examples of the so-called gout consisted simply of local cleanliness as regarded the affected parts, thereby preventing the continued multiplication of microbes, the while that the birds had plenty of that form of nitrogenous food which was necessary to the due maintenance of their vital power, i.e. their power of resisting bacterial toxins.

(*To be continued.*)

The Hawfinch.

By NORDOVICENSIS.

THE HAWFINCH is a bold handsome bird, rather smaller than a Thrush. His colours are not brilliant, as they are mostly of various shades of brown, fawn, and grey, with a certain amount of black and white. In addition to the large strong beak the Hawfinch has one peculiarity which distinguishes it from all other British birds, i.e. the secondary quills are curiously formed, being widened and shaped at the end like the old-fashioned bill-hook.

In the wild state it is very shy, and in consequence is perhaps more often heard than seen. In some parts of the country it is fairly common, and is I believe becoming more so every year, at any rate in Norfolk and Suffolk.

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* Bird Notes. Vol. III. Page 216.

As cage birds they are most interesting. They are easily tamed, and are always lively and active; they sing freely, the hens almost as much as the cocks. The song is perhaps more curious than beautiful, but, whilst singing, the cock has a very pretty habit at times of putting up his crest, drooping his wings, spreading his tail, and turning from side to side in much the same way that a Goldfinch does occasionally when uttering his call note.

When first starting to keep them, it is better if possible to get a hand-reared bird, as these are more quickly tamed. If this is not possible, then a young bird should be obtained in June or July, when they can be fairly easily caught in the peas. This, though an offence against the Wild Birds' Protection Act, need not worry one much, since as far as the bird is concerned it is a case of the devil or the deep sea, for it is either trapped and caged, or trapped and killed, or shot outright, because at this time of the year they are certainly no friends of the gardeners. The amount of damage an old pair and their brood can do to a row of peas must be seen to be believed. At other times of the year I think they are harmless to the garden. The accusation that they destroy fruit buds in the Spring is, I believe, a libel.

The cock can be distinguished from the hen by his generally larger size, and by being, when in adult plumage, brighter in all his colours. At all ages moreover his wings are black with a brilliant blue sheen, whereas the hen has slate grey markings on the primary and tertiary flights.

The feeding of these birds is not a difficult matter; when young, they can have green peas, hemp and canary seeds, with insects of various sorts, such as caterpillars, small beetles, etc. When older, oats, barley, wheat, sunflower seed, with an occasional mealworm, should be added, whilst the kernels of any stone fruit, apple and pear pips, are much appreciated.

They are easily tamed by means of the particular seed they are most fond of, but, even when apparently perfectly tame, they are easily frightened by anything unusual, such as a strange dog, or anything large being brought into the room.

I have not had any success either in breeding or in hybridizing, though I think they would breed under favourable conditions. The cock is most attentive to the hen during the breeding season, trying to help, though without any very marked success, with the building operations, and feeding her most assiduously. Apparently they feed from the mouth only, not from the crop as the Canary does.

They should not be kept with smaller birds, as they are very apt to catch hold of any intruder when they are feeding, and when they bite they nip very hard. For this reason also it is wise to wear a glove, if for any reason it is necessary to handle them.

A Bibliography of Cage Birds.

Up to A.D. 1900.

By E. HOPKINSON and W. GEO. CRESWELL.

(Continued from page 164).

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(*To be continued.*)

Review.

Quiet Hours with Nature, by Mrs. Brightwen, F.Z.S., F.E.S. T. Fisher Unwin. Cheap Edition, 2/-.

Mrs. Brightwen is one of the most successful of the large and ever increasing company of authors who write on natural history subjects from the popular standpoint. This little work has all the attractive qualities by which the writer's books are distinguished.

Mrs. Brightwen has the rare gift of inspiring the confidence of wild creatures. Most of her pets seem to have been "tamed" without ever having been "captured"—they are, and always have been, free to come and go at will, and their only captivity is the bondage of affection for their mistress. At the same time Mrs. Brightwen has none of the foolish and sentimental prejudice against the confinement of wild creatures, even under the best of conditions, which is paraded by some writers on wild nature, notably by Mr. W. H. Hudson. *Apropos* of "Tame Voles," she remarks, "seeing that we cannot be all day out-of-doors making observations about these and other subjects of study, there seems some use in keeping creatures in happy captivity, because we can thus become ultimately acquainted with them, and learn many facts about their life and habits, which would otherwise be difficult or impossible to observe." But there is a heavy responsibility upon us to see that the captivity *is* happy.

The proportion of space in this little volume actually devoted to birds is not great. We read about "Merops" the Rook, "Bobbie" the Barn Owl, a Jackdaw, and some Ortolans, but the most interesting chapter is that about the Syrian Bulbul (*Pycnonotus xanthopygius*). The reviewer has never kept the species, but has had the nearly allied and wholly delightful *P. leucotis*, and can therefore echo Mrs. Brightwen's conclusion that "the habits of the bird are so charming, and its ways so playful and full of character, that it seems to combine almost all the qualities one can desire in a feathered pet, and one cannot but recommend it to students of domestic bird life."

It is strange that the author should "never before have heard of a bulbul kept in captivity in this country"!

Post Mortem Reports.

(*Vide Rules*).

ROSELLA. (Mr. Beech). The lungs of this bird, an imported and very recently purchased specimen, contained an enormous number of filarial worms about one-thousandth of an inch in length. These however were not the cause of the bird's death, for I believe they are present in the blood of a large proportion of birds when they first come over, but disappear after they have been in England about twelve or eighteen months. The real cause of the bird's death was acute Septicæmia. It was an excellent example of the so called "Tuberculosis," the spleen, liver, and one lung containing caseous nodules. The two former organs were crowded with them.

ZEBRA FINCH. (Miss Brooksbank), and

GOLDFINCH. (Mr. Fillmer). Both these birds died of acute pneumonia involving an extensive area of both lungs.

PEKIN ROBIN. (Mr. Acutt). Like the two preceding birds this one also died of pneumonia. I am at a loss to say for certain what the scalping was due to, although it looked more like the work of a bird than a mouse. The bird was a hen.

GREY WAXBILL. (Mrs. McAdam). There were no marks of injury either in or on this bird, the cause of death being pneumonia.

GOULDIAN FINCH. (Mr. Wilson). Egg binding caused death. There were two eggs of large size, neither of them shelled as yet, and one smaller one.

JACKDAW. (Mr. Acutt). This bird had pneumonia of the right lung, evidently acute.

BUDGERIGAR. (Mr. Chaplin). Intensely fat. Congestion of the liver, followed by apoplexy, caused death.

MASKED FINCH, nestlings, two. (Mr. Wilson). These had evidently been thrown out of the nest either by their parents or some other birds, probably the Diamond Sparrow.

INDIGO BUNTING. (Mrs. Mellor). There was a broken blood vessel in the orbit, producing a large clot of blood. You did right to put the bird out of its misery.

URAL OWL. (Mr. Beech). A remarkably fine (female) specimen. The cause of death was violent and extensive pneumonia of both lungs. They were almost completely hepatized.

BUDGERIGAR. (Mrs. Toye). The spleen was enlarged, and the liver was thickly studded with minute caseous nodules. There were also some extravasations of blood on the surface of the brain. Septicæmia therefore was the cause of death. This will explain the recurrent losses complained of in this aviary. W. GEO. CRESWELL.

Letters to the Editor.

MR. FINN ON CHINESE AVICULTURE.

SIR,—I have never posed as a traveller in China, but as long ago as 1901, in a paper on "Cage-birds of Calcutta," in the *Ibis*, I said, "Many birds are imported from China, and come over in excellent condition. . . . . . . The insectivorous birds are fed on shelled millet and small insects, mixed together and given quite dry and plain; they thrive excellently on this diet, which is far better than the mess of 'satoo,' and repulsive maggots given here." I have never stated anywhere that the Chinese never give egg, nor that what they did not know about bird-keeping was not worth knowing, nor have I said anything at all about Japanese methods of feeding birds, or about Chinese methods of feeding breeding finches.

Dr. Creswell has not explained what he means by dragging my name in in connection with Japanese bird-feeding, or by exaggerating his "never" into "never by any chance."

FRANK FINN.

Valuable space cannot continue to be devoted to correspondence so little edifying to my readers as this. The above letter is admitted only to avoid any accusation of unfairness, and not for its possession of any argumentative value. It therefore will be the last.

Mr. Finn has never been accused of "posing" as a traveller in China. The existence of a statement made in the *Ibis* (a book I have never seen) in 1901 is no proof that the statement was not verbally amplified in October, 1903. No one has ever accused Mr. Finn of stating anything "about Chinese methods of feeding breeding finches." It was myself who alluded to that. If Mr. Finn objects to my "dragging his name" into the company of Mr. Heselton's, which is all I did or intended to do, that is his business and not mine; and finally, to imagine that by any possible means "never" can be "exaggerated," is about as ridiculous as it would be to say that one thing is "more unique" than another.

On October 27th, (or 28th ?) 1903, Mr. Finn told me that the Chinese never gave egg in any form to any of their birds, not even the insectivorous ones; that all they gave was dried flies and husked millet, given dry; and that what the Chinese did not know about bird keeping was not worth knowing. On the 28th, I wrote to him on the subject, on the 30th I received his answer, and on the 31st I sent our then Editor the communication embodying what he had told me. This was published on November 14th. Now, if I was guilty of falsification, Mr. Finn knew it by the 15th at latest, for we cannot suppose that a memory which is so acute as to serve him after the lapse of nineteen months could possibly have failed him at the end of nineteen days at the most. And this puts Mr. Finn into an even more disastrous dilemma than the one which has caused this regretable dispute. He has either been my partner all along in the undesirable course of conduct of which he now accuses me, by allowing me to go uncorrected and even to repeat the statement on more than one subsequent occasion, or else in repudiating the statement at this late hour, apparently with a view of wriggling thereby out of a corner, he is now guilty of something more than a mistake. But since persistence in this involves an entire disregard for the reputation of a man who has never sought to injure him in any way, he cannot expect me to extend any sympathy towards him in his dilemma.

W. GEO. CRESWELL.

THE HONEY GUIDE.

SIR,—In answer to your Editorial Note at the foot of the exceedingly interesting excerpt from Evelyn's Diary, by "Corvus," in your issue of July last, I now send you an extract from "Five Years Adventures in the Far Interior of Africa," by R. Gordon Cumming. This book was first published in 1850. The passage in question can be found at pages 36 *et seq.* of the 1904 edition.

"While actively busied with my oxen, I saw to-day for the "first time, the Honey-bird. This extraordinary little bird, "which is about the size of a Chaffinch, and of a light grey "colour, invariably leads a person following it to a wild bee's

" nest. Chattering and twittering in a state of great excitement, it perches on a branch beside the traveller, endeavouring by various wiles to attract his attention; and having succeeded in doing so, it flies lightly forward in a wavy course in the direction of the bee's nest, alighting every now and then, and looking back to ascertain if the traveller is following it, all the time keeping up an incessant twitter. When at length it arrives at the hollow tree, or deserted white ant's hill, which contains the honey, it for a moment hovers over the nest pointing to it with its bill, and then takes up a position on a neighbouring branch, anxiously awaiting its share of the spoil. When the honey is taken, which is accomplished by suffocating the bees with the smoke of burning grass at the entrance of their domicile, the honey-bird will often lead to a second and even to a third nest. The person thus following it ought to whistle. The savages in the interior, whilst in pursuit, have several charmed sentences which they use on the occasion. . . . . . ."

Then follow some remarks on the wild bee.

He continues: "Interesting as the Honey Bird is, and though sweet be the store to which it leads, I have often had cause to wish it far enough, as, when following the warm 'spoor' or track of the elephants, I have often seen the natives, at moments of the utmost importance, resign the spoor of the beasts to attend to the summons of the bird.

"Sometimes, however, they are 'sold,' it being a well-known fact, both among the Hottentots and the tribes of the interior, that they often lead the unwary pursuer to danger, sometimes guiding him to the mid-day retreat of a grizzly lion, or bringing him suddenly upon the den of the crouching panther."

He concludes by giving an instance of having yielded to the seductions of one of the birds. "I was Quail shooting, when my attention was suddenly invited by a garrulous Honey Bird which pertinaciously adhered to me for a considerable time, heedless of the reports of my gun. Having bagged as many Quails and Partridges as I cared about shooting, I whistled lustily to the Honey Bird and gave him chase." A chase which led him into close quarters with an unusually large crocodile." FOREST OF DEAN.

Editorial Notes.

HUMMING BIRDS:—In an interesting letter lately received from Prof. Hodge, of Clark University, Mass., I learn that he is having great success with tame Humming Birds, and is in hope that one of his students may succeed in domesticating and rearing the species in confinement. He does not, however, mention which particular species is under observation.

RUFFED GROUSE:—The same gentleman kindly sent me the Report of the Commissioners of Fisheries and Game for 1904, containing an account of his experiments in that year with these birds under domestication. With the aid of Bantam hens he was successful in hatching and rearing a number of young ones. The Report is illustrated with several beautiful photographs of the Grouse in various stages—including one of an adult, which was captured on September 26th, and yet had become so tame as to be photographed on November 2nd, whilst perching on the knee of a young boy. In the letter above alluded to he tells me that this year he has been very unfortunate in losing most of his hatches of young from what he thinks was "Septic Fever, due possibly to custard feeding combined with cold and rainy weather."

VERONICA AS GREEN FOOD:—One of my correspondents in the Cage Birds section of *The Country Side* tells me that she finds this shrub very useful as green food for her Canaries, especially in Winter when the ordinary green stuff is difficult to obtain. They never tire of it, and all its varieties are equally used.

THE SONG SPARROW:—Mr. L. W. Brownell contributes an article on this North American bird in a state of nature to *Country Life* of July 22nd. After saying that it is a "seed eater," he describes the feeding of the nestlings. "At first, as is the case with most young birds, their food "consists entirely of insects, which must be beaten to a pulp "by the parent's bills ere they are allowed to enter the "awaiting mouth." Mr. Seth-Smith has also recently observed very much the same thing. It is an interesting fact, because it has been generally believed that *all* seed eaters feed at first from the crop.

W. GEO. CRESWELL.

About Gouldians.

By Capt. PERREAU, 2/4th Gurkha Rifles.

IN Chitral in December, 1902, a Commissariat Agent was going down to Calcutta on two months leave, and asked me if he could bring me back anything. My thoughts immediately flew to Zebra Finches, which I had been trying to get for some time back, so, giving him a note to Baboo Saniyal of the Calcutta Zoo, my commission was two pairs of Zebra Finches.

The Agent returned in the beginning of March after a very bad crossing over the Lowari Pass (10,000 feet), where he was delayed by snow storms. No Zebras were procurable, but he hoped that the birds he had bought would please me. These birds were a pair each of Red and Black-headed Gouldians. I thought they were lovely birds ; I did not know then what a really good Gouldian can look like, and these birds were really very good considering their trying journey, better in fact than any I have since bought. Still my feelings were somewhat akin to awe as to my ability to keep them alive and well, and I almost wished that Zebras had been procurable. I had seen Gouldians many years ago at Zoos, not in the best condition, and I was told by the Agent that canary seed was all that was required. Beyond this the only ideas I had with regard to them were that Gouldians were expensive, delicate, and required a high temperature. But I also knew that their price had dropped considerably in the last few years and that many birds formerly considered delicate were hardier than was supposed. When I thought of their trying journey, three days by rail and 14 by road, I cheered up a bit, especially when I remembered the bitter cold they had been through in a small open bamboo cage.

Still the food question rather worried me, as I could hardly believe that such lovely birds could live altogether on seed, contrary to the usual thing out here at any rate; worse luck, my frequent absence prevents my keeping anything but seed-eaters. However I found to my relief that my trouble in collecting small insects of various sorts was quite wasted. Egg, cake, &c., were left alone. Excellent millet (like the Indian but fuller) was locally procurable, canary seed I got up from India, and in season there was any amount of green stuff and flowering grasses, which were greedily eaten. Crushed egg-shell simply vanished. Grit of course was given. On the above treatment they throve very well, and I have not altered it much since with the aid of books and further experience. Rock salt I knew nothing of at the time, and have not given since, as the birds seem to get on very well without it. I think its place is largely taken by cuttle-fish bone, in which I am a great believer. I give a good deal of cuttle now, and it is simply gorged, especially during the moult and in the breeding season. I had none in Chitral or should have given it there. I also now give bread and milk, and have done so since the Gouldians' first breeding season. At this season and in the moult they do love a good deep drink at the milk, never touching the bread, and I am sure it does them good. Judging from my own experience it probably is not good for the typical finches, but I strongly believe in it for Grass-finches, &c. Perhaps I need hardly add that milk is always boiled out here.

To get back to these particular birds:—the commissariat godown was ransacked to provide a bigger cage, and everyone was much interested in the Humming-birds as many thought they were. A tea-box (3ft. by 1ft. by 1½ft. high) formed the frame, and a lucky find of a bit of ½ inch mesh wire netting served for the front, the ubiquitous kerosine oil tin provided a tray, and after the addition of two little boxes and some perches the precious birds were transferred to more roomy quarters. I was a bit disappointed at first at their lack of interest in the boxes, but in August, after I had put some grass in the boxes to tempt them, it was found that the cage would not hold two pairs unless the boxes were removed. I took the other alternative of having two cages. By the time they got really settled down and there were eggs shortly due to hatch in both cages, it was the middle of October, and time to move back to India, and so the birds had to go back to their small travelling cage. Transport is strictly limited with the Relief Column on account of passing through a possibly hostile country, and this prevented my taking the Gouldians down in their own cages and giving the nests a small chance. My charming tame Scops Owls, reared from the nest some months before, were let go without compunction as regards their getting their own living, as they were nearly free before. I was glad I had resisted the temptation of collecting live birds ; I could have got many rare and beautiful specimens of the Bunting and typical Finch tribes, but I am not keenly interested in these, and the market for sale or exchange is very small. I must say I do rather regret not having brought Gold-fronted Finches and Cinnamon Tree-Sparrows. However, only the Gouldians were taken.

My faithful bearer Mira Bux carried them down the whole way himself, and produced a shawl which made a splendid covering at night and on the road. I don't know what Mrs. Mira Bux said about the shawl, but my wife said it was too good for the job. Those birds were knocking about for the most part under canvas and in the bitter cold until the middle of January, 1904, and they never seemed sick or sorry. Then we went into standing camp at Madhopur (Punjab), and I managed to get a small bungalow alongside the camp. This bungalow had been built as a hot weather resort, and cold was not the word for it. There was one fireplace in the house, but of course the baby had to have that. However, a lamp at night took the outside chill off, and the Gouldians kept very fit. Roomier cages were again knocked up with ease compared with the Chitral ones, and nest-boxes were again unfortunately provided, though I knew we should get back to Bakloh in April or May. On the 8th February the Blacks had three eggs, and out of the four eggs which I counted on the 22nd, two hatched on the 24th. On the 25th a curious thing happened; about eight in the morning I found an egg on the floor and did not get a chance to return it, as I did not want to disturb the nest for what I made sure would be a bad egg; about seven in the evening I thought I would see if it were fertile. I broke it and found a live chick, which I promptly returned to the nest. On the 1st March there were three live young birds and one egg, which latter I took out; it had been fertile but was addled. My rescued young one had evidently lived. On the 7th all three were still alive, one much smaller than the other two. About the 3rd the weather, which before had been bright and sunny though cold, turned perfectly beastly, and on the 9th I found two of the young, one dead and the other nearly dead on the floor (which soon died), and the third very cold and miserable in the nest. The survivor kept on scrambling out of the nest, so I put the box on the floor and supplemented the nest. The cock got furious with the hen; both fed the youngster well but would not nestle him, and he died on the 11th March. Meanwhile the Red-heads had some eggs, but did not settle down properly. The hen was treated for egg binding and fortunately gave up all idea of nesting for a bit. On 25th March the blacks had another egg, when this hen also got egg bound. The egg yielded to treatment, but she got egg-bound again next day and she succumbed. At the end of April, when we returned to Bakloh, the Black-head cock was put in a separate cage, and the Reds had the aviary. I have forgotten to mention the feeding of the Blacks when they had young; I am sure I was wrong as to giving animal food, and mention it as a warning. Lettuce, and little of that, was the only green stuff procurable. Flowering grass (of the same sort as the roadside grass in England), was only procurable as far as I knew at a house three miles away, good but very little of it. A few days after the young were hatched the hen was always asking for something, I thought probably for animal food, so I gave her some bee grubs out of a tree in the compound and rusk soaked in milk; both were greedily eaten by her and more sparingly by the cock. I have never seen Gouldians before or since eat any insect food, though they are keen on milk.

My bird diary is a bit vague from May to August, 1904, but I know that the Reds hatched one lot of young (which soon died) before the 15th August, that a second lot had hatched on August 23rd, and vanished on the 26th, and that the old birds started building again the same day. Eggs on the 31st, hatched about the 16th September, young heard on the 18th. For some time the diary runs with a pleasing sameness. "Going strong, at least three by their voices." On the 4th October "From outside can see three heads in (mostly out of) the husk." On the 7th "Two young came out, can see two more, very miserable, so put them back in nest." On the 8th only one came out; was put back in the evening. This went on for a day or two, then they either found their own way back or roosted in another husk or box, the fifth and last one discovered himself on the 10th. They began to pick up on the 14th, were seldom fed after the 17th, and never to my knowledge after the 22nd. One died on the 19th, but I was more than satisfied with four fat youngsters, when I had rather given up hope.

The old Red-heads were sitting steadily on eggs again on the 23rd October. On 27th I had to have a great clearing up, as I had to go into camp for the cold weather, and I had decided to put a good many birds in a large cage in the house for the winter; hence the catastrophe. I foolishly let go the old cock Red in the house (by mistake of course), and he was out of the window in a minute. Then I put the hen out in a native bamboo trap-cage and she got out; then after careful examination the four young and the old Black cock were distributed in or near traps with no result. The truants were seen the next morning, but not again. They looked splendid, but I don't want to see a similar sight again, in Bakloh at any rate. I went into camp on the 29th. Their eggs were put into a Spice Bird's nest, and were hatched—to judge by the row. My wife, who was not to join me in camp till December, thinks that the young Spice Birds were also hatched. It was the Spice Birds' first attempt at a nest, or other results than ordinary vanishing might have been looked for.

In the light of after events I wish I had let the Red-heads chance it in the verandah aviary, as in that there was only one death, (one Orange-cheek which had survived many trials); indoors the casualties ran to one young hen Gouldian, and five young Red Avadavats out of six comprising two broods. Outside in the aviary one pair of Avadavats were left, as they had young in the nest. Their first brood of three had been taken indoors. Before my wife left these young (five) were out, and when we returned in March, 1905, these were all alive and are so now. So if the Reds had been left out I should probably now have had not only the old ones, but some young as well.

The fledgling plumage has often been described, but there seem to be varied opinions as to the moults. Before my wife left at the end of November their backs had mostly turned green, brighter than on leaving the nest, but not like the adult bird ; turquoise blue had appeared at the back of the neck, a little black on the chin, the head was flecked with brilliant red (no black at any time on the head), the breast flecked with purple in the cocks and lilac in the hen, and the belly yellowish. The sexes were easily distinguishable at this time.

When we returned in March the colouring was a little more advanced, the autumn moult evidently went into December, but alas, the hen had died. They began to moult again in the end of April, and the process was long and difficult ; I often thought they would not survive it. However by July they were in lovely adult plumage, and were ardently seeking to increase their kind by the end of that month.

In March this year I got up ten more from Calcutta, of which one died on the journey and two more not long after. The remainder are now all very fit and busy with family arrangements, though only one pair has as yet got so far as young. Two of these birds offer some peculiarities as regards plumage. One hen, the only Red-head survivor of the lot, had a lovely red-head when received, but since the moult there is very little red on the head. The other case is a question of sex ; it is either a very brilliant hen or a poor coloured cock. I think she is a hen from her general behaviour, but there have been no certain signs up to date ; her companion is a home-reared red cock, who always prefers the lady next door, and has been changed several times to different abodes, and now lives in the Parrakeet aviary to be out of harm's way, or at any rate where he can do no harm. Anyhow this arrangement gives me three certain pairs in the big Grass-finch aviary, and one certain pair in the verandah aviary. This last aviary I have had some years, the two others are new acquisitions this year.

I mention this as it is only this year that I have noticed how slow Gouldians are in learning to take cover. Even through the beginning of the rains they would roost out in the open, and even now are only just under the verandah at night. They must still get very wet with the driving rain we often get, yet they will spend a great part of the day inside the house, which forms the third part of my new aviaries.

One pair in the Finch aviary ought to do well this year if they carry on according to promise. When first I inspected their nest (my curiosity has lost me many young I am sure, but I do like knowing what is going on), there were some eggs; the second time there were a lot—so I counted—ten. I was rather disgusted at their play as I thought it; the last time there were seven fat young varying in size, and three eggs. Not so bad; but, to be Irish, I expect disappointments, indeed often ask for them by wanting to know too much. For instance I shall look to-morrow to see if those three eggs have hatched and also to note the colour of the mouth beads. My note as to their colour, written at the time of my first young which died, runs :—" Three beads at the corner of the mouth, two bright turquoise blue, one bright yellow; inside of mouth yellow speckled with large black spots far apart." Also when asked to-night as to their colour my wife immediately answered " bright blue and yellow." Unfortunately I have not noted the colour of the beads in other young. These warts soon get smaller and vanish after the birds leave the nest. I wonder if these beads vary in different individuals; and, if so, what is the cause. I don't quite see the use of beads as guides to the parents, but they may come into the scheme, so to speak, as I certainly think that the ornamentation in the mouth is a guide to the parent in finding the mouth of the young in the dark nests these birds make. However, this is a matter of opinion and will take some proving either way. [*vide* Editorial Notes.—Ed.]

All my Gouldians have been very fond of a tub, though they are not regular bathers by any means, but once started they have a good one. Rain will always start mine even late in the evening, as it does with many birds.

My Gouldians have always nested in a husk or a box, using fine grass. The song is certainly low, but as a rule audible for some way. Two or more cocks singing together make a very pleasant, soothing, bubbling music of which I am very fond ; the song is often without the dance accompaniment and is then louder.

The courting ceremony is most curious. I must own that this year I have seldom seen it carried out in full, but with my first two pairs it always took place just before pairing. This year my birds are not quite so tame, and with the exception of one pair are not so easy to watch. I *have* seen the ceremony this year, but generally in part only. It consists of a series of positions taken by each in regular turn. First position—Body perfectly erect but not on tip toe, so to speak : head bent sharply down, beak almost into the breast, the head quivering from side to side all the time ; probably love whispering is going on, but no sound is audible to the human ear. Second position—The body is held obliquely, the beak in continuation of the line of body, the two-syllable call-note is uttered from time to time, and the tail is held sideways towards the partner. Third position (cock only)—Body erect on tip-toe, head slightly drawn back, beak at right angles to the body, singing violently, often without sound, generally with dance accompaniment, hopping violently straight up and down. The show usually commences with the cock singing to the hen in the third position, without dancing and in a casual sort of way. First figure—cock takes position (1), straight to the front; hen takes position (2), in a listening attitude, also straight to her front. Second figure—cock takes position (2), hen takes (1). Third and final figure—Cock takes position (3) turned towards the hen, hopping violently; hen takes position (2) with tail quivering. Often the hen flies off in the middle of the show, when the irate cock hunts her all over the place. I have not often seen the pairing this year, but I have never seen it without the preliminary ceremony in full. I should mention that in position (3) the face-mask is puffed out in a curious manner. The above is taken from notes of last year, and I have since noticed that some birds take position (1) in a crouching, not in an erect attitude.

The Gouldian in the moult is uninteresting, small blame to him; but at other times he (and she) is charming. In my rather limited experience I have found them, when once acclimatised, hardy and able to stand pretty severe cold, requiring no special treatment or food. They soon become quite fearless of their human friends, and are not quarrelsome with their bird companions. He, though standing no nonsense from even Java Sparrows and liking his own corners to himself, has no revengeful spirit, and contents himself with driving off the intruder. She is much quieter, but harbours a more revengeful spirit when a stranger has peered into her nest. This is the only occasion on which she shows fight, but then she is not contented till she has a few of the intruder's feathers. Near the Gouldian nests, within a foot or two there are, or have been, nests of Spice Birds, Three-coloured Nuns, Zebra Finches, Bengalese, Long-tailed Grassfinches, Red Avadavats, and Diamond Sparrows. Other Gouldians are barred within 5ft. at least. The male bird is very inquisitive, but is a gentleman as to nests occupied by other birds, though I can quite understand that there would be ructions on introducing a new pair in the breeding season.

The cock is sometimes a little ardent in his wooing (my old Black-head is), but often with good cause. For instance I have a Red hen who was a flirt; she was always violently in love with a Red next door; it was no good giving in to her wish, her thoughts then turned to another next door, may be a foretime partner. Next door was also my dear old cock Black-head, who rejected all possible partners in his own aviary (all Blacks), and had set his heart on the flighty hen. I knew the old gentleman's little ways, and in spite of my wish to keep colours together, decided to give the flirt a lesson. At first she tried to carry on the old game, then there were one or two domestic scenes, rather alarming to the spectator, but now she is the dutiful mother of good eggs, and peace is restored to both aviaries.

The chief charm of Gouldians lies in the amount of individual character they possess and their habit of asking for what they want. I cannot say that I have noticed that the brighter Red has any advantage or disadvantage in the matter of sexual selection. It seems to be a question of a particular bird, not a particular colour.

On inspecting the young at the moment of writing (Sept. 2nd, 1905) I find that the colour of their "beads" is the same as that noted last year. The father of this lot has the longest pintails I've seen, though there are some nice ones in the aviary. Over two-thirds of the entire length of tail is taken up by the *fine part* of the pin feathers, which becomes so fine for about an inch from the tip that it is practically invisible except against a good background.

I have mentioned cold several times, and I daresay some people will think I mean cold for India; I mean cold for anywhere. Remember that in winter it always freezes at night in the plains in the N. Punjab. Well, this station is 5,000 feet up. Two feet of snow is quite common. We certainly do see the sun more often than in England, but the changes of temperature are most trying. The hot weather is hot, and a lot too hot.

The Rearing of the Ruffed Grouse.

By C. F. Hodge, Ph.D.

(*Reprinted by permission from the Report of the Commissioners on Fisheries and Game, U.S.A., Dec.*, 1904,)

The permit given from the Department of Fisheries and Game allowed me to take twelve eggs of the Ruffed Grouse for purposes of experiment. Five eggs were obtained May 28, and seven June 1, from nests not less than sixty miles apart, being taken from two nests, in order to avoid the possibility of close interbreeding in case the birds reached maturity. The eggs were carried in the crown of a felt hat, between a thick pad of cotton batting and the head,—the first lot from 9 in the morning until nearly 6 in the evening—and all hatched in apparently perfect condition, proving this to be an excellent method of transporting incubated eggs.

Cochin Bantam hens were obtained by the kindness of Mr. Merrill from the Sutton hatcheries, and they brought out the respective broods May 30 and June 6. Food was supplied, but little was taken during the first day, and the chicks were left undisturbed in the nest. At the end of this time they were removed to warm nest boxes, placed within boxed yards covered with netting, which gave the chicks access to grass.

The weather was stormy and very cold, and despite every precaution against exposure a number of the chicks were taken sick, apparently with colds or pneumonia, and five died within the first ten days. One was killed in the nest the first day. Subsequently two were snagged by cats which reached through the inch-mesh wire of their enclosure, and died in consequence of their wounds. This leaves four of the original stock, and at present writing they are as fine, vigorous birds as one could find in the covers.

About the first of October two wild birds which had flown against windows in the city were added to the flock. These, under the influence of the others, rapidly became practically as tame as they, and we thus have a stock of six healthy birds, from probably four different broods.

My plan of feeding has been to give the birds the greatest possible variety,—as much as practicable like the foods they would be likely to find in the woods,—and to study and note their preferences. The feeding can probably be simplified when we discover the staples and essentials. At first the chicks were given ripe blowfly maggots and pheasants' custard. They were able to pick up the maggots from the second day on, and these remained the staple diet until about the middle of September; after that its place was taken by live grasshoppers.

Along with the foods above mentioned, I gave, especially during the first weeks, great abundance and variety of small insects: plant lice, thrips and rose slugs, spiders, "ant eggs," mosquitoes and mosquito "wrigglers," small earth worms, flies, and gnats; also small grasshoppers and moths, obtained by sweeping the grass and bushes with an insect net. The chicks were also given their freedom,—the free run of the lawn and garden as much as possible.

From the first day I kept the pens supplied with fresh chickweed, and the chicks began eating it on the second or third day. They also ate dandelion seeds, and were fond of the green heads of June grass. All kinds of fruit were offered them, and none of the native and common garden fruits were declined, (with the exception of pears and peaches, which were scarcily more than tasted), from strawberries in June to apples in October. Raspberries, blackberries, and mulberries were eagerly eaten, and blueberries and huckleberries formed a staple food during their seasons. Thorn apples, barberries and black alder berries were not refused, but were not taken in large quantities. Grapes of all kinds were greatly relished, especially Delawares. Chokecherries and especially black cherries were eaten in great quantities.

Although liberally supplied with green cabbage and fresh chickweed and generally lettuce, all of which the young birds ate daily, they also took quantities of all sorts of leaves (except grape, snowball, artichoke and *Rosa rugosa*) of the trees and other plants which grew in their enclosures: hawthorn, cherry, black cherry, apple, hackberry, chestnut, plantain, rhubarb, yellow dock, oxalis, all kinds of clovers, and many others. Early in September they began to develop proclivities for budding, and were often seen nipping and tugging at small twigs. They ate chestnuts and acorns eagerly through October and up to the present.

The first moult occurred chiefly in August, and the adult feathers appeared in September, along with the "snow shoes" and leggings. Soon after attaining their fall plumage they began to strut, after the fashion of the Turkey gobbler. The tail is spread, the wings are dragged on the ground and the ruff is thrown out around the head, and a great deal of bowing, shaking the ruff and hissing is indulged in. The male and female of the Ruffed Grouse are not distinguished by any marked differences in plumage. I supposed at first that strutting was definite indication of male sex, but doubt if this is the case with young birds. With Turkeys the young of both sexes strut. At any rate, all the birds that I have reared from the egg have strutted more or less, and still, from their size and other characteristics of head and neck, I am inclined to think that three of them are females. Neither of the wild birds have shewn any signs of strutting, although apparently perfectly at home with the others.

As far as domesticability is concerned, our Ruffed Grouse are tamer than most barn yard fowls. They have not evinced instincts of fear at any time to any remarkable degree. They feed readily from the hand, and will hop upon the knee—even the wild ones—to do so. They have not drummed as yet, but it is to be hoped they will in the spring. The outlook is good for nests and broods next season, if present health and vigour of the birds can be taken as an indication of future possibilities.

[The above interesting article was written at the end of November last year. An account of Professor Hodge's experiences with these birds during the past season would be welcomed by our readers.—Ed.]

A Bibliography of Cage Birds.

Up to A.D. 1900.

By E. HOPKINSON and W. GEO. CRESWELL.

(Continued from page 188*).*

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BRENT, B. P. **The Canary, British Finches, and some other Birds,** including directions for their management and breeding in cage and aviary, as well as for the treatment of their diseases. With numerous illustrations. 12*mo*, 122 *pp.* 1/-. *London: J. of Horticulture Office.* 1861.

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See Lauder and Brown, Macaws etc.

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See under Blakston.

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8vo. 480*pp.* 7/6. *London: J. Murray.* 1851.

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12*mo.* 270*pp.* 3/6. *London: Warne.* 1878.

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EATON, J. M. **A Treatise on the art of breeding and managing tame, domesticated, foreign and fancy Pigeons.** *8vo.* 200*pp.* (*and* 12*pp. addend.*), *with* 18 *coloured steel engravings by Dean Wolstenholme, comprising* 30 *portraits.* 10/-. *London: Eaton.* 1858.

This book is included here on account of its containing descriptions of our native Doves, the Australian Bronzewing, and the Goura, or Great Crowned Pigeon. A curious error as to this book exists in all other Bibliographies, owing probably in the first place to a misrepresentation by the Author himself in an advertisement printed in the book itself. It is always stated to have 30 *plates*, whereas it is as above noted—30 *portraits* in 18 plates.

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66*pp.* 1/-. *London: Betts.* 1897.

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Paper. 1/-. *8vo.* 94 *pp.* *London.* 1893.

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—— **Popular Parrakeets;** their Breeding and Management by Amateurs. 1/-. *London: Upcott Gill.* 1898.

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92 *pp.* *London: Ward, Locke & Co.* 1898.

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—— **Notes on Cage Birds,** (Second Series), or Practical Hints on the Management of British and Foreign Cage Birds, Hybrids and Canaries. 27 Illustrations.
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JESSE.
See Brehm.

KEULEMANS, J. G. **A Natural History of Cage-birds.** Coloured plates.
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KIDD, WILLIAM. **The Canary**, a Cage- and Chamber-bird. Illustrated by N. Whittock.
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12*mo.* 32*pp.* 1/-. *Ibid.* 1854.

——— **The Goldfinch**, the Linnet, the Linnet-mule, the Goldfinch-mule, and the Bullfinch: an entirely original and familiar treatise on the habits of the favourite birds etc. 12*mo.* 32*pp.* 1/-. *Ibid.* 1856.

——— **The Blackbird**, Song-Thrush and Missel-Thrush.
12*mo.* 30*pp.* 1/-. *Ibid.* 1856.

——— **The Nightingale**, the Blackcap, and the Garden Warbler. 12*mo.* 32*pp.* 1/-. *Ibid.* 1865.

——— **The Aviary and its Occupants**; a book of reference on all matters connected with birds.
2 *pts.* 12*mo.* 2/-. *Ibid.* 1856.

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KNIGHT, JONAS. **Hints on the Yorkshire Canary.**
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LABOUCHERE.
See Brehm.

LAUDER, Sir T. D., and Capt. BROWN. **Macaws, Cockatoos, Parrakeets and Parrots.** Their Natural History, Habits, and Peculiarities. With chapters on cages and diseases by Dr. Karl Russ. Illustrated with 40 engravings by Joseph B. Kidd.
Crn. 8vo. Boards. 1/6. *London: Dean.* About 1880.

(*To be continued.*)

Review.

"*Travels of a Naturalist in Northern Europe; Norway,* 1871, *Archangel,* 1872, *and Petchora,* 1875." *By J. A. Harvie-Brown, F.R.S.E., F.Z.S. 2 vols. Demy 8vo., Cloth, Gilt. Price £3* 3s. *net. T. Fisher Unwin.*

"Better late than never" is a homely proverb of much weight, and although the Author has been scarcely kind to ornithologists, or just to himself, in keeping back for so long the records of his wanderings of thirty and more years ago, we cannot but feel indebted to him for the painstaking record he has now presented to us. Literary faults it certainly possesses; but even they are excellencies, because they are due to the book being a transcript of the daily journal, and so being a faithful record of the conscientious work done by Mr. Harvie-Brown and his distinguished coadjutors, Alston and Seebohm.

The chief interest of the book centres around the account of the Petchora journey, the principal object of which was to discover the previously unknown breeding places of the Little Stint, Grey Plover, Berwick's Swan, Curlew Sandpiper, Knot, and Sanderling. As far as the first three are concerned the quest was successful, nests and eggs having been found near the mouth of the river in lat. 68°. The eggs of the first two are made the subject of charming coloured plates, one of them by Grönvold. It is moreover in this portion of the book, extending over the whole of the second and part of the first volume, that the somewhat dry and condensed daily entries, elsewhere met with, are replaced by copious and intensely interesting accounts of the many rare birds observed and obtained by our travellers. We had almost said—explorers, for in truth the northernmost regions they visited are even now quite outside the beaten track. Amongst other things there is included a most valuable account of the Samoyedes, their social habits and religious customs, their domestic animals, and their implements of daily use.

To the aviculturist, as such in the narrowest sense, the book naturally does not appeal overmuch, though to him who keeps birds in aviaries, and at the same time likes to know something about where they can be found, the surroundings amidst which they live, and the variations they present, it opens up a mine of great wealth.

The volumes are handsomely got up with good paper and excellent print, and are copiously illustrated with photographic reproductions of great merit.

We recommend every ornithologist to add the book to his store, and certainly no Public Library can afford to be without a copy in the Reference room.

Post Mortem Reports.

(*Vide Rules*).

REDRUMP. (Mr. Wilson). Pneumonia. This disease is the result of toxins or poisons thrown out by certain micro-organisms into the blood. It is therefore an infective disease, and having been very rife this last few months it may have been the cause of the other deaths in your aviary.

CORDON BLEU. (Mrs. MacAdam). Pneumonia. The loss of feathers was more likely due to other birds than mice.

BUDGERIGAR. (Mr. Salter). I regret that I was unable to examine this bird until too late to form any reliable opinion.

BUDGERIGAR. (Mr. Bucknell). There was an internal growth of large size. The microscopical examination will not be complete for some time.

LOVE BIRD. (Miss Baker). Enteritis. There was absolutely no sand in the gizzard, consequently this organ was crammed tight with unbroken seed, some of which was also lying free in the small intestine. *Sand should be supplied from the moment of purchase.* It will never do any harm, whereas the want of it may be very injurious.

JAY. (Mr. Acutt). The whole of the digestive organs were much congested, and death resulted from malnutrition and exhaustion.

PINTAILED NONPARIEL. (The Hon. M. Hawke). Enteritis, brought with it from dealer's shop.

GOULDIAN FINCH. (The Hon. M. Hawke). Pneumonia. This was an aged bird.

AVADAVAT. (The Hon. Mrs. Ward). This bird was advanced in years and died of debility and exhaustion due to the moult.

CANARY. (Miss Gibbons). Pneumonia. The feet were gangrenous.

Letters to the Editor.

INSECTS AND BIRDS.

Sir,—Mr. Farrar's article on "Worms and Feathered Fowls" is, as usual, most amusing and interesting, but as to my experience with some of the creatures he names, perhaps you will permit me to say a few words there anent.

I can heartily endorse all Mr. Farrar says about the "harmless necessary" cockroach, and almost all he advances *re* the mealworm, which I have also found much cheaper to buy than to try to breed. In the notoriously insanitary bakehouses of the Continent the creature flourishes, but an English amateur attempting to breed it for his own use has many obstacles in the way of success, notably a minute acarus, that speedily swarms in every receptable devoted to the reproduction of *Tenebrio molitor*, and consumes not only the provisions destined for the nobler insect, but also the latter itself. I have not found that mealworms, imported or home-bred, agreed with my Nightingales and other insectivorous birds unless they were supplied to them in a mutilated state, that is, cut in two or more pieces, and as I strongly objected to the necessary vivisection, I soon abandoned the mealworm and turned my attention to the gentle but odoriferous maggot of the blow-fly, which was not only much more easily bred than the mealworm, but could have its perfume mitigated so considerably as to be quite inoffensive. My modus operandi was as follows. I procured a fresh sheep's paunch from the butcher, and hung it up in the sunniest part of the aviary, where the sweet breezes of heaven could reach it on every side. I inserted a small bit of stick to keep the mouth of the article open, and left it there, when it was speedily discovered by the flies, who at once took possession of its interior, in which they deposited their eggs. The outside quickly dried up, and the maggots revelled in the inward recesses, from which, when full grown, they emerged, and dropped to the ground in which they purposed to burrow and change into chrysalises. But their fate quickly overtook them, for scarcely had they reached terra firma than they were snapped up and devoured by the young pheasants, quails, and other birds of like tastes that inhabited the enclosure. I may add that the whole process was effected without any smell whatever, at least that was perceptible to the most sensitive nostrils at a distance of three feet from the paunch. Any larvæ that fell from the nursery during the night, and so escaped temporarily were promptly scratched up in the morning by the vigilant bantams that mothered the little pheasants and quails.

Dermestes lardarius, the bacon beetle, an insect that is much dreaded, and not without reason, by furriers and taxidermists, affords excellent pabulum for all kinds of insectivorous birds, particularly when it has reached maturity and walks the world in beetle form. It is easy to breed in a box containing rabbit skin or feathers. The larvæ are repulsive looking creatures, but the little brown beetles are rather pretty than otherwise.

I share Mr. Farrar's horror of the wasp grub, as well as of its parents, and leave both severely alone.

W. T. GREENE.

Editorial Notes.

GOULDIAN FINCHES:—We have been particularly fortunate in being able to print, within so short a period, the three contributions from the Rev. C. D. Farrar, Dr. Greene and Capt. Perreau, which, taken together, form an almost complete monograph of these charming birds as aviary captives. Capt. Perreau apologises for the length of his paper, but such minuteness of observation and lucidity of description as he exhibits are the very essence of true science, and need no apology. His statement as to the mouth wattles of the nestlings being two of them turquoise blue and the other yellow on either side is especially valuable, since it is the outcome of careful observation of living (? and dead) birds during two breeding seasons. My footnote to Mr. Farrar's article to the effect that they were emerald green as to two and blue as to the other was derived from Dr. Bowdler Sharpe's "Wonders of the Bird World" (page 115), where the coloration is so described, evidently in error. I have since looked up the matter, and find that Dr. Sharpe (or his proof reader) had misinterpreted his authority, for I see that in the December number of the *Avicultural Magazine* for 1898—not the November one as stated—which I have just obtained a sight of, Dr. Butler gives the colours in accordance with Capt. Perreau, except that where the latter says "bright" yellow Dr. Butler says "pale" yellow. This difference however is of no great account, because Dr. Butler's specimens were dead, and the yellow would naturally have somewhat faded.

I am afraid I cannot however subscribe to the theory that these wattles owe their existence, or rather survival, to their being a guide to the parents in feeding. Were that the case there would by now be no birds extant, which, occupying dark nests, did not exhibit analogous guides, whereas we all know there are hundreds of such species. With regard to the protection against snakes theory I offer no opinion either way, because I have not sufficient facts before me to warrant my doing so.

Another point of great interest to me in Capt. Perreau's valuable paper is the fact that his Gouldians came to no harm during their prolonged exposure to a degree of cold, which is described not as merely cold for India, but as cold for anywhere. It so fully bears out what I say on this question in "The Hygiene of Bird Keeping."

THE WILD CANARY:—While no one seems to have noticed the error I was led into by Dr. Sharpe over the Gouldians, a gentleman "who does not wish his name to appear," but who can be easily identified from the internal evidence afforded by his letter, has been "curious enough to examine the historical evidence" given by me in my recent article in this Magazine on the Wild Canary. The results of his research are considered to be of sufficient value to occupy two pages (all but four lines) of brevier type in an esteemed contemporary, to the exclusion of an important letter on Avian Tuberculosis and even of their own *Post Mortem* Reports. The gist of his communication is that I was guilty of some errors as to the precise dates of publication of certain 16th century books which I cited, that I did not take into account the descriptions given therein of the European Siskin, (and worse than all) that two of the Authors' names were incorrectly spelt, and that of one of these books I gave only the short title. I admit the gravity of my offence and tender my humble apologies to my readers. With regard to the matter of the Siskin and the misspelling I can offer no excuse, except perhaps that if even I had seen the books I should have probably thought the Siskin had nothing to do with the Canary. With regard to the dates—I own that I was too idle to emulate the gentleman (who does not wish his name to appear) in his industrious acquirement of useful knowledge in the British Museum, and that to my everlasting shame I took the reprehensible short cut of consulting Professor Newton's "Dictionary of Birds," and other apparently respectable authorities on my own shelves.

I congratulate the gentleman who does not wish his name to appear. Melting into nothingness before the war fleet of science, he has gained a glorious victory over the fishing fleet of dates. There is however a fly in the ointment. The fishing fleet turns out not to belong to the enemy, but to a neutral power which even he dare not attack in cold blood.

"O fortuna, ut nunquam perpetuò es bona!"

AVIAN TUBERCULOSIS:—The readers of the above alluded to contemporary have lately been receiving some instruction on this malady at the hands of a medical man, who has a righteous horror of whom he calls the "self-constituted experts of *Bird Notes*." In a lengthy letter in their July number, the appearance of which had been previously announced in one of the weekly papers to the glorification of its writer as a pathologist, he informed us that he had found the disease in two Gouldians and two Canaries, and that according to Prof. Nocard it is common among birds. In a private letter to myself he also told me that he had traced fatal cases of consumption in humans to infection from Canaries. Now if these statements are true the matter is a very serious one, and our action in keeping phthisical chamber pets, and in maintaining bird rooms swarming with the tubercle bacillus, is one which will soon call for legislative interference.

I therefore challenged this gentleman (or any body else) to produce a cage bird suffering from Tuberculosis, that had not been deliberately inoculated for the purpose, and to demonstrate the tubercle bacillus in its organs. Although it is ethically incumbent upon every one who assumes the position of a scientific investigator to come forward with proofs of his advertised results when called upon, this gentlemen declined the challenge in the following words. "If the observations and "researches of such eminent Bacteriologists as Nocard, "Villemin and Hewlett fail to convince Dr. W. G. Creswell "that Avian Tuberculosis does exist amongst birds, I am "afraid that he must excuse me from trying to do so."

In this sentence there is a distinct and emphatic insinuation that I deny the existence of Avian Tuberculosis. We will enquire how far that is justified. In the first place it so happens that I am, and have been for some time, engaged in research in Hewlett's own laboratory upon the disease which is so universally mistaken by the imperfectly informed for Avian Tuberculosis. It may therefore be safely accepted that Prof. Hewlett knows what I am doing, and that there is no difference of opinion between us on the subject in hand. Secondly, about two and a half years ago I penned the following sentence in *Bird Notes*, and have never since amended or altered it. "Of "all diseases however with which Septicæmia is confounded, "Tuberculosis is the most frequent, and this too in spite of "the fact that even if the latter exists at all outside the "Gallinaceæ, *which is doubtful*, it is exceedingly rare." So as regards the necessity for my being convinced that "Avian Tuberculosis does exist amongst birds," it would seem that our instructor either spoke too soon or said too much. Besides, what he said is quite outside my challenge.

Let us now see where Nocard needs to "convince" me. In this medical man's July letter he quotes the Professor as follows—words, and punctuation marks and all. "Tuberculosis "is a common disease among birds: the bacilli are a little "longer than those met with in Tuberculosis Mammalia, "otherwise they have the same characteristics, react in the "same way to the same stains, and flourish on the same culture "media, but they are more vigorous and grow more quickly "and abundantly."

Nocard never wrote that sentence. It is one manufactured by my unscrupulous opponent himself out of fragments—and garbled ones at that—of four different sentences on two different pages out of the seven devoted by Nocard in his little book to our subject! Nocard *never said, and never even implied* that "Tuberculosis is a common disease among birds:" This is what he said, and I italicize the essential words deliberately left out by my opponent in his search after truth. "Tuberculosis is a common disease among *the* birds *of the* "*poultry yard*, . . ." Then in the next sentence Nocard goes on to say "It attacks poultry, pigeons, turkeys, pea "fowl, guinea fowl, etc.; *and even the small birds take it* "*experimentally*."

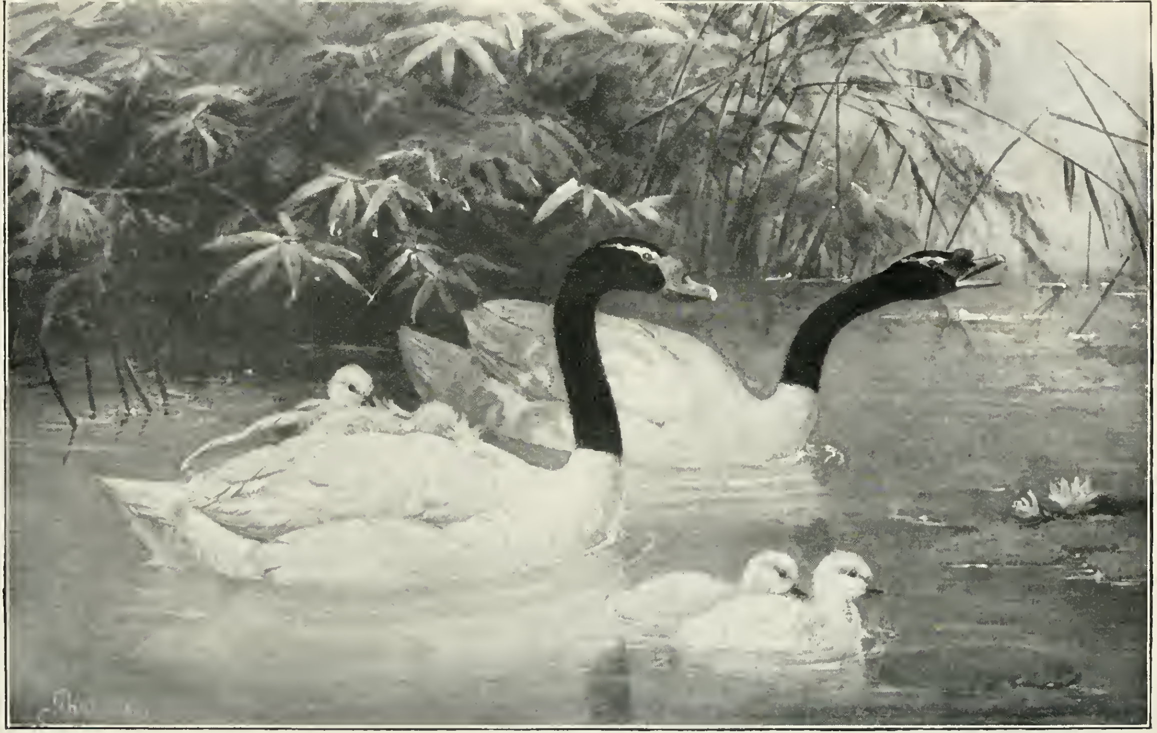
It will therefore be seen that, when I challenged this fellow medical man of mine to demonstrate tuberculosis in a *cage bird not especially inoculated for the purpose*, I was absolutely at one with Prof. Nocard, although by deliberate misrepresentation of both of us in opposite directions, it is now sought to make me appear a hopeless outsider steeped in the darkest ignorance, and requiring to be convinced of a fact I have always admitted. After this exposition of the method of conducting a scientific discussion adopted by the latest champion of the obscurantist party, we need not feel surprised to find further on in the manufactured "quotation" that Nocards words "generally seem" are twice over boldly altered into "are."

And here I would pause a moment to request the serious attention of my opponents. "Nothing extenuate, nor set down aught in malice," should ever be one's guiding principle, and in these Notes I have at one and the same time accorded my most pertinacious detractor his fullest dues on finding that he had been undeservedly made to appear in error; I have laughed at the gentleman "who does not wish his name to appear" when, beaten on more important issues, he characteristically cavilled at trifles; and I have exposed without compunction a deliberate attempt (on the part of one who ought to have known better) to place me, by means that won't bear examination, in an unscientific position which is not, and never has been, mine. I will not labour the point by further comment on the methods adopted in these constantly recurring attacks on myself, but I would ask my opponents if they really think they are covering themselves with the mantle of dignity, or if they really think that aviculturists as a body are stupid enough to be taken in by speciousness? Whatever their answer to these questions may be, they may be quite certain of one thing—knowledge marches too rapidly in these days for anyone who assumes the position of an instructor to permanently retain the respect of the multitude, *unless he marches onward as well.*

The perennial struggle to get an intelligent hearing has however a brighter side than the one evidenced by the foregoing story. We get glimpses of it in the support of real men of science both at home and abroad, and it is that which gives one encouragement to go on gradually replacing one's own ignorance with knowledge. For instance, a foreign University Professor whom I have seen described as a "specialist in two or more of the fields of biology" writes to me on his own initiative, "We are a long way apart in miles, but very close together in some points of work and purpose."

W. GEO. CRESWELL.

[Since our going to press, the November issue of our contemporary has appeared. From an editorial footnote we learn (1) that my exposure of the perversion of Nocard is considered too "personal," (2) that the gentleman who perverts Nocard and myself has the pages of the next issue at his command, and (3) that no one will be allowed the privilege of controverting anything he may then choose to say! I am pleased to see however that no embargo is laid upon my sending the whole correspondence to Prof. Nocard for his inspection, or upon any further course of action I may decide on taking in the matter.—W. G. C.]



BLACK-NECKED SWAN

A. S. HUTH, Photo

The Black-necked Swan.

(Cygnus nigricollis).

By H. Goodchild, M.B.O.U.

Probably comparatively few of us have ever even heard of the "Zoological Sketches," a series of water-colour drawings of living animals made in the Zoological Gardens by the great animal painter Joseph Wolf. By the kindness of the Zoological Society, to the Council of which our thanks are due for the permission to reproduce the accompanying example, we are enabled to gain some idea of the character of this series. The originals are treasured in the Library of the Society, and those who are Fellows of the Society should avail themselves of the opportunity of seeing the actual work of this great artist.

This bird comes from Argentina, Chili, and Patagonia. Mr. W. H. Hudson, who knows the Black-necked Swan in a state of nature, thus writes of it in "Argentine Ornithology" (Vol. II. p. 125).

"This Swan is very abundant on the pampas of Buenos Ayres and in Patagonia, and ranges south to Magellan Straits and the Falklands. As a rule they are seen in small flocks, but sometimes as many as two or three hundred congregate together. They are heavy birds and rise with difficulty, and fly rapidly and with great violence, like all heavy-bodied short-winged species; but in no other very large bird with which I am acquainted do the wings produce so loud a rushing sound. In quiet places the beating of their wings can be heard distinctly when the birds are no longer in sight, although, owing to their large size, the eye can follow them very far. Gauchos sometimes capture them by suddenly charging down the wind upon them, uttering loud shouts which greatly terrify the birds, and when they attempt to rise with the wind they only flap along the ground and are easily knocked over. A Gaucho of my acquaintance one day caught three out of a flock of six in this way; but a very strong wind favoured him, and the birds were at some distance from the water, and allowed him to come near before making the sudden charge. As a rule they are seen on the water, and when on land they keep very close to the margin."

"According to Mr. Gibson, who has observed their breeding-habits, they begin to nest in July—just after the winter solstice. The nest is always placed among thick rushes growing in deep water, and the Swan invariably swims to and from her nest. It is built up from the bottom of the swamp, sometimes through four or five feet of water, and rises a foot and a half above the surface. The top of the nest measures about two feet across, with a slight hollow for the eggs, which are cream-coloured and have a smooth glossy shell. The number varies from three to five, and on one occasion six were found. Mr. Gibson has seen the parent bird swimming from the nest with the young on her back."

The Red-headed Finch.

Amadina erythrocephala.

By H. R. Fillmer.

According to the classification of the Zoological Society, the genus *Amadina* includes, besides the Ribbon Finch and the Red-headed Finch, the Cherry Finch, the Zebra Finch, the Diamond Finch, and some others. But the Ornithologists of the British Museum restrict the genus to the Ribbon Finch, the Red-headed Finch, and one other species, *Amadina marginalis*, which appears to be at present unknown to English aviculturists.

While the well-known Ribbon or Cutthroat Finch is a native of West Africa, its near relation the Red-headed Finch is found in the more temperate regions to the South. It appears to be somewhat local in its distribution, but fairly common in many parts of South Africa. I do not think that any South African species are largely imported into Britain—and certainly the Red-headed Finch is a comparatively rare bird here. It is somewhat larger than the Ribbon Finch, which it closely resembles in general appearance, with the very noticeable difference, in the male sex, that the red throat, band is wanting, and, instead, the whole head is of a dull red colour—the red being more scarlet and less crimson than that of the Cutthroat.

I first became personally acquainted with the Red-headed Finch in 1892 or 1893, when I purchased a rather aged male, which lived some little time in my possession. In the Spring of 1904, I received, with other South African birds, a very fine pair of this species. They passed the Summer of 1904 in my out-door aviary, and the male remained out most of the Winter. I brought the hen indoors in the Autumn for fear of egg-binding. In May of this year I turned them out again. A large number of eggs have been laid each season, and the birds seemed at times to be sitting properly, but no young have ever been hatched. On the other hand, they have interfered seriously with the nesting of the Double-banded Finches, and I believe were guilty of the murder of some nestlings. In consequence of this I removed them from the aviary at the end of August. The male has since died.

These are somewhat formidable looking birds, but I have never found them dangerous to adults of other species.

The Red-headed Finch has more than once been crossed with the Ribbon Finch, and the male hybrid, at any rate in some examples, exhibits both the red head and the red neck-band.

Precautions.

By the Rev. C. D. Farrar.

B*e careful to shut all doors after you.* The neglect of this simple precaution has before now cost dear. I know a man who carelessly left a door open one evening, and his cock Turquoisine got into the next compartment; the hen came off to see where he had got to; failed to find her way back, and a fine nest of youngsters perished. Another time I left a door open and a very pretty fight ensued between a cock Barnard and a cock Blue Mountain, and when it was over neither were worth very much.

Be cautious as to what grows in an enclosure to which nesting Parrakeets have ready access. Elder seems an innocent shrub, in all conscience. Who would dream that a Parrakeet would eat its acrid foliage? And yet a cock Turquoisine of mine did so; and fed therewith a nest of five splendid youngsters which all died afterwards.

Don't leave pails of water kicking about in an aviary, or you will be sure to find the bird you most value floating head downwards therein in the morning.

A catching net carelessly propped up against the wall of a compartment full of birds has 'ere now claimed its victim; and nothing will atone for the poignancy of anguish when you find a dead bird therein, the result of your culpable negligence. The place for the net is outside the aviary, except when in use.

A mousetrap is intended to catch mice, not birds. Be very careful therefore when you set it that the birds cannot get in. I always use the patent German affairs where the mice run up an incline and commit suicide. This trap sets itself, and I have caught in it a dozen mice in one night, when times were good. In setting it I always put the trap behind a slanting board, with the opening in the trap as near the wall as possible, so that only a mouse can get in. When I used to put the trap in the open, the very first victim I caught was a poor little baby Chinese Painted Quail. I could have cried as I took the body out. But it was too late to weep. I have always been very careful since.

Poison is never employed by me now. I will tell you why. Years ago I used to poison the mice with "Batty's Vermin Killer" placed on bread and butter. I was very careful, as I thought, and always pinned the bread to a board and covered it well, so that birds could not get to it. I was not careful enough, for some mouse must have dragged away a few fragments. I never noticed them, they got mixed with soil, and months afterwards a splendid pair of Port Lincolns found and ate them and were found dead on the floor one morning. That is why I have never used poison since.

Aloe fibre is sometimes recommended for nesting materials. I used to give it to my birds; but one day I found a poor bird hanging up by the leg, and since then I have always used less dangerous material.

When you are giving water always fill each water pot as you go along. It is very easy to forget one if you do not do them as they come: and an empty water pot may cost you very dear.

Never interfere with nests. Birds very strongly object to having their nests interfered with, and in spite of what learned professors say, often desert them incontinently, if you do. Is it worth while to lose a fine nest of youngsters just to gratify a moment's idle curiosity? The only bird that will allow you to look at his home, *as far as my experience goes*, is the Budgerigar. You may lift down his husk and peep; but I would not advise you to go any further even with him.

Make things unpleasant for cats. They delight in sitting on top of the aviary wire for hours and watching the birds. When this is permitted it is useless to expect any good breeding results. A good garden squirt is very efficacious in such cases; or better still an air gun. Have the grave dug all ready beforehand!

If a bird gets out, don't worry. Let it alone and, like the celebrated lambs, it will come home and bring its tail behind it. I have had Zebra Finches flying about for days, and they always asked to be let in sooner or later. I have had Blue Bonnets soaring overhead, rejoicing in their freedom and saucily jeering at one as they passed. I said nothing, but waited, and they were only too glad to return sadder and wiser birds. Hunger is a wonderful tamer, and poplar trees, although lofty and nice to roost in, are not sustaining to the Parrakeet stomach. I get up very early the day after the escape, and generally find the truant running frantically about on the wire on top of the aviary seeking for a hole to get in. I make one in the likeliest place I can find, and before very long, he pops in like a rat, and I simply go and fasten down the wire, and go to bed again. Rush about shouting and waving a net, and you merely scare the bird away, besides making yourself dreadfully hot and angry.

An Ornithologist's Summer Holiday.

By H. Goodchild, M.B.O.U.

At a time when London is rendered most uncomfortable through heat, I was fortunate in being able to leave it for a few weeks, and to spend the time in the South of Scotland and the North of England.

My first halting place was Edinburgh, and from thence I went round the far famed Bass Rock, which at all times is a place of interest to a lover of bird life.

The first birds we saw as we left Portobello, where I joined the steamer, were of course Gulls, but as one got within sight of the rock, Gannets, with their striking contrast of black and white plumage were seen, but, unlike the Gulls, passed without taking any notice of us. As we neared North Berwick, flocks of Puffins, distinguished on the wing by their light cheeks, passed in rapid Starling-like flight, or else rose from the water when we were close enough to recognise them. Guillemots or Razorbills, less numerous than the Puffins, were seen, but dived as the boat approached them. When we got near the Rock the engines were stopped, and the hideous noise of the steam whistle turned on to induce the birds to leave their ledges and take wing. I heard that when first this practice was employed to move the birds, many eggs were knocked off the rock into the sea by the affrighted birds, but I was relieved to see that they did not now take much notice of the infernal hooting. Gannets were in evidence more than anything else, but I could not distinguish any young on the rock or any immature birds amongst those on the wing. At the present time the rock is disfigured by a lighthouse, which is placed close by the ledge on which a pair of Peregrines formerly bred. I afterwards met an ornithologist in

Edinburgh, who told me that this pair of Peregrines had migrated, and that he knew to a yard where they were ; also that they had the good fortune to completely rear their young, a thing they were not allowed to do, even before the days of the lighthouse, on the Bass. I looked in vain for Scoters, but neither these nor any other sea ducks were to be seen. A few days after I went round the Bass, I was along the shore opposite to it at Canty Bay, and saw Sandwich Terns fishing along the margin of the water, and on the rocky parts of the shore I saw the Rock Pipit, which is here a common bird. A Wader of some sort tantalised me by its whistle, but look as I would, I could not find it, and I did not recognise its note.

Close to Edinburgh on the South and South-West are the Pentland Hills, a fairly large tract of uncultivated ground, rising to nearly 2,000 feet altitude, having sufficient natural features, along with some artificial ones (such as reservoirs), to offer a home to several species of birds which town naturalists would look at with pleasure. Although this summer has been an exceptionally dry one in the districts I visited, and was even at that time considered a very favourable one for Grouse, I only saw one from the path I took, where I have usually seen a dozen. A Kestrel being harassed by a Carrion Crow, was the only event I noticed at all unusual. Peewits and Blackheaded Gulls bathed by the margin of one of the reservoirs and a Curlew showed itself over the skyline above them. On account of the long drought, the reservoirs, were very low, and provided considerable sand or mud banks for such birds as feed on them, and I noticed many Sandpipers running about the tiny creeks along with some Redshanks. Teal fed in the channels where the streams ran into the reservoir, and at this season of course looked as brown as Sandpipers, being in "eclipse" plumage. My walk took me through the main range of the Pentlands, but Ring Ouzels and Dippers were the only other birds, at all peculiar to the hill country, that I saw.

On leaving Edinburgh I went to stay in Cumberland, on the edge of the Lake District, within sight of the most beautiful of the lakes. Here several Birds of Prey are still to be seen, the first I saw being a Kestrel. A day's fishing on the upper part of the Caldew took me over fairly open ground, where there was lots of heather, but here again very few Grouse were seen. An immature one, picked up dead and headless, showed how tender many would still be on the fatal 12th, then only about a week distant. This young one had only a few mature primaries, the others being the freckled and spotted feathers of the nestling plumage. Over the high ghylls and secluded valleys Buzzards may still be seen soaring gracefully on high. One of these birds gave us a remarkable exhibition of one of the mysteries of flight. It was within a hundred yards and on a level with ourselves when we saw it first, but it mounted to a height of over a hundred feet above us, and then sailed away over a valley till absolutely out of the range of a binocular, and this too, more or less against a fairly strong wind, and with perhaps only six or seven beats of the wings. The time taken for it to get out of sight was not noted, but seemed to be about two minutes, and yet the bird appeared not to be exerting itself at all. A visit to the top of a neighbouring mountain yielded the only sight of Ravens I got in the Lake Country, and I also saw a Falcon that looked like a Peregrine. These two birds one would expect to find at a mountain top, but I was surprised to find, on the very summit, a Wheatear flitting about. The Ravens I heard, as I looked down into a series of steep ghylls with sharp ridges and points, and on the first sound of their croak, which I know so well, I looked out over the steep-sided hollows, and looked in vain, when the birds all at once glided round a pinnacle I had just passed. As Ravens sail round a mountain top, one may see their heads turned from one side to the other by the watchful birds, who curiously enough do not seem to have any fear of man, often coming near enough for one to watch their movements quite well.

My last halting place was on the other side of Cumberland, on the foot of the Pennine Chain. The hills here are of a very different character from those of the Lake District, being less steep and rocky, and having comparatively flat tops. Nevertheless the area of ground above 2,000 feet is considerable, and by its very unattractiveness to the general tourist, favours the preservation of several species of interesting birds. My first day's fishing proving a failure, as the wind blew down stream and a drizzling rain came on, I secreted my rod, and made my way up to the highest hill in the neighbourhood (Crossfell). On my way I saw several Ring Ouzels, or Mountain Blackbirds, which allowed of a closer approach than usual, possibly on account of the dark and wet weather. I saw no Ravens, as I had hoped to do, but instead saw three Plovers, darting round the plateau at the top with a peculiar rapid flight. I tried to identify them, but though they looked like the Golden Plover, and though these were the most likely birds of the Plover kind to be there, I could not feel sure. A steady downpour discouraged my staying, and I trudged homewards without again seeing my Ravens. The weather mended that same night, and after one heavy shower the next morning, turned out bright. Again I went fishing and found the conditions perfect,—there was plenty of water in the streams, a thing to be thankful for in August, and a bright sky—such a day as made a trout-fisher thankful he was within range of mountain brooks. The charming little Dipper, the angler's companion in these districts, was there, and often passed me as I moved up stream. It was still early when I reached the limit of fishable water, and as I was then about 2,000 feet up and only about a mile or so from the top, I packed my rod and flies and cheerfully set off to the same summit as I had been on the previous day. Again I saw the Waders in rapid flight, but this time they flew close by me, and as they were yellowish grey above I do not doubt that they were Golden Plover which had either bred, or been bred, on the high pastures at the foot of the mountains. Coming down I saw the Ravens I had missed the previous day, and was lucky enough to see seven in sight at once. An ornithologist feels thankful that a bird so much persecuted is still to be seen in England ; in Cumberland, I am glad to say, this bird, along with all the birds of prey I have mentioned, is protected.

A Bird's Day.

By Mrs. de Courcy Laffan,

Author of *The Wafting of Wings*, etc., etc.

During a tedious convalesence after an illness, my attention was much centred upon a pair of Bullfinches that inhabited a cage hanging near my window. Every little action of the pretty pair became familiar to me, and I quickly realised the beauty and poetry of what I may call "A Bird's Day."

At early dawn, when first the pale amber light began to steal through the lattice of the Venetian blinds, a soft—very soft rustling of feathers was audible ; there came a little plaintive note from one or the other, as who should say "Is this a new day, dear ?" then silence and—I doubt not—waiting, to see how things progressed. When the light grew, and the seed-box became visible, a slight meal was partaken of, and then, fresh water having been put into the long, metal box that hung on the wires, the grand business of the toilette commenced—rustling of wings, and spray dashing everywhere, even on to my breakfast tray, comprised the initiatory stage. Then two damp, but very happy birds, stood on opposite perches, and began eagerly to investigate the innermost interstices of their beings. It appeared to me that every feather had to have individual attention, and the process was a long one. After this, fresh seed having been given, and eagerly upset in all directions, and the choice bits gobbled up, there was a calm survey of my recumbent form, and the band began to play. What long-drawn-out notes, what quaint little chuckling laughter, what swayings to and fro! the more elaborate utterances being naturally on the part of Mr. Bullfinch. I loved to lie and listen to their voices and watch their little antics, and am always of the opinion that there are few birds to equal them. To toy with the sprays of groundsel always given them at mid-day, to routtle their bodies in the fresh sand spread on the bottom of the cage, and then to warble soft cadences, passed the early hours of the day, and in the afternoon came a siesta, not so deep as the night-sleep, but doubtless enjoyable.

Then, as the light faded and the shadows on the lawn outside grew long and deep, and Robin was singing his plaintive adieu to the day, came preparations for bed, preparations by no means so peaceful as I could have wished, and by no means suggestive of that perfect domestic harmony one would have fain looked for. The fact was one small perch in a high-up corner was the favourite roosting place, and Mrs. Bullfinch was full of artful dodges to secure the nook ; dodges rudely set at nought by her lord and master making a rush and turning her topsyturvey on to the floor of the cage. Sometimes one managed to hold the coveted elevation, sometimes the other, and then the little black heads were tucked under the wing (it must be very nice to be your own eider-down quilt and tuck yourself up in your own recesses) and a tiny chirp from each seemed to say "Good night, dear!" and the Bird's Day was ended.

Some Reminiscences of my Early Days of Foreign Bird Keeping.

By J. A. Swan.

AMONG the very earliest of my foreign bird keeping experiences I particularly remember my first Saffron Finch. I had a few days previously purchased some Mannikins, and I wanted some bright coloured birds to enliven the aviary. Calling at Luer's in the East End, I saw what appeared to me at the time to be a glorified Canary, and I eagerly enquired what it was and the price. Much to my relief the latter item was very small—only one and ninepence if I remember rightly—so I had no hesitation in closing with the offer. I must confess that the bird's head was partly bald, which somewhat detracted from his appearance, and probably accounted for the low figure; but as I was told "his hair" would soon grow again, I mentally accepted the discount.

If I was pleased with the appearance of the bird whilst in the shop I was quite charmed with his pretty colours and sprightly manner when he was introduced to the Mannikins. Hither and thither darted his bright and flashing yellow body, the green on the back making a beautiful contrast to the brighter plumage, while the darkly marked wings and saffron crown completed a *tout ensemble* which, even in later years, I regarded as a very striking picture.

He proved to be a very companionable bird, and speedily made himself at home in the large flight cage. His manner towards the Mannikins, and to the other companions he afterwards had, was generally that of hail-fellow-well-met, though at times there was just a touch of hauteur in his bearing. I certainly never had to punish him, as I was sometimes obliged to do with other members of the family. After a time his "hair" grew plenteously, and good health, the outcome of good living, gave him a decidedly sleek and prosperous appearance. He would often whistle quite a pretty little song, sometimes very early in the morning before the rest of the world was stirring.

As I was only then keeping the birds for their beauty—I suppose most foreign bird keepers *start* with that idea—I made no attempt at breeding, though, for the guidance of our younger members, may add that, given a good sized aviary, this is not a difficult accomplishment.

I cannot recall exactly how long I had this particular bird, but it was some three or four years, and he caused me no trouble whatever during that time. Therefore if any of my readers are in their avicultural youth and have not yet made the acquaintance of the Saffron Finch, I, for one, cordially recommend him as a cheerful, jolly little bird, who will brighten the collection by his beauty, and be content with seed and a bath as his daily portion, and will also be grateful for luxuries in the shape of a mealworm, spider, or some grass in flower, whenever his owner is able to provide them for him.

I have mentioned that at the time of purchasing the Saffron Finch, I already had some Mannikins. Well, these identical creatures were the first foreign birds I kept, and I remember, as if it were but yesterday, all the details connected with their arrival.

I had some time previously bought a large flight cage for the reception of my coming family, and had enamelled and fitted it up according to my own ideas, —which, by the way now raise a little smile, they were so quaint and original. However, there was the cage all ready, with sand on the floor, hopper filled with seed, and a large bath provided, so it only remained to get birds to put in it. For this purpose I journeyed to the famed Club Row, and I must confess to being disappointed at what I saw there. I had imagined a sort of miniature Zoo, and remember wondering whether I should have time to see all the birds before deciding on what to purchase! And "miniature" it was indeed—so much so in fact that had there been about two dozen foreign birds less, there would have been none at all. You will gather, therefore, that my choice was exceedingly limited, and but for my eagerness to see something alive in that cage I should probably have come away without buying anything. As it was, I had to select between four Mannikins, which were in the only clean shop in the Row, and some half dead Avadavats and Zebra Finches at a den a little lower down, where the principal stock-in-trade seemed to consist of fancy scents. So I was driven to the Mannikins—ordinary Black-headed ones—and I believe they cost me just two shillings for the two pairs.

Having reached home safely after great trepidation on my part, in which the birds died at least every half mile, I cautiously undid the door of the large cage, and then gently opened that of the small travelling box, when out tumbled the four birds like boys at a boarding school after cake, and hurled themselves head first into the bath. Such a splashing and chirping and jumping about ensued for three or four minutes! Then out crept, one after the other, four half-drowned disreputable looking objects which certainly appeared as if they would never get dry again in this world.

But of course they did. And after fluttering their wings, preening themselves, and flying about for a few moments, they settled down to eating and soon developed into the most uninteresting birds under the sun.

My next acquisitions were a pair of Bengalese and a Tri-coloured Mannikin. The latter was purchased within a few days of the Black-headed Mannikins, and consequently before I had discovered what uninteresting birds they really were. As most of our members know, the Tri-coloured differs only from the Black-headed in having the breast and part of the under body pure white in the place of the rich chocolate possessed by the latter bird in the same regions. Their habits are exactly the same in captivity, and represent what I have heard pithily described as "vegetable existence." Of course everyone has heard of—and possibly some have actually heard—the "song" possessed by the same species. All I could ever catch, and I have fairly good hearing, was a very faint drawn out "whee-e-e-e" at the finish of the visible performance. The vigour and enthusiasm thrown into their presumed vocal efforts are however worthy of a more adequate result—at least so it appears to an onlooker—though the quiet satisfaction expressed in their manners at the end of the solo as they again comfortably settle themselves on the perch, leads one to believe that they, at any rate, derive considerable satisfaction from their antics.

I sometimes seemed to think that the Bengalese regarded the Mannikins in the light of competitors in a class in which they can probably beat any birds yet created. Whether this was really the case or not, it is nevertheless a fact that whereas the Mannikins would move occasionally and at times become quite brisk, the Bengalese never stirred from their perch unless it was to feed. They took possession of a basket nest in a corner of the cage, and would sit at the opening blinking lazily at their more energetic companions, probably thinking—if it was not altogether beyond them to do so—what foolish creatures they were to skip about at all. Sometimes I felt quite wild with them and would make them move ; but as the process often disturbed some birds which were genuinely resting, I generally let them follow their own inclinations. Of course the inevitable result was death by fits, the final manifestation of a condition brought on by overfeeding and want of exercise.

Soon after the Bengalese had departed I gave two of the Mannikins to a friend, who thought very highly of them! (Needless to say he had not previously kept foreign birds). Another Mannikin went in part exchange for a cock Cordon Bleu. There was rather an amusing incident in connection with my very short possession of this bird.

When I put him into the cage he flew to a perch and sidled along until he had reached the wires, when he calmly hopped through and sat outside! I was considerably astonished by the bird's matter of fact manner, and after a little effort I caught him and placed him back in the cage, having first squeezed together the wires through which he had escaped, as they seemed a trifle wider than the rest. But Master Cordon Bleu was not a particular individual, and it was apparently immaterial to him whether he went out through those identical wires or any others. At all events he did not trouble to ascertain whether the same opening would suit his purpose again, but chose the first he came to and hopped through once more, wearing a calm "see-what-I-can-do-when-I-like" expression that was very engaging in such a mite.

As I could hardly spend the rest of my days playing "catch me if you can" with a Cordon Bleu, I was reluctantly obliged to return him to his first owner with the intimation that I could accept nothing under a half-inch chest measurement.

(*To be continued*).

A Bibliography of Cage Birds.

Up to A.D. 1900.

By E. HOPKINSON and W. GEO. CRESWELL.

(Continued from page 214).

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Brighton, later London. Nov., 1894—.

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Brighton: Moulton & Co. 1901—.

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MARRIOTT'S **Parrot Keeper's Guide.** New edition. with 28 steel plates, 2/6; with no plates 1/-. 12*mo.*
London: Dean. 1870

—— **Parrots,** how to treat and feed. 6d.
London: Dean. About 1880.

"A new and enlarged edition" advertised 1903.

MASON. **New British Bird Fancier.** *Half calf.*

Scarce. A copy was included in Mr. Coombe Williams' Sale in 1887.

NASH, J. **Practical Treatise on Cage-birds,** in which is given every information relative to their Natural History, Incubation, Method of Rearing Old and Young Birds. Illustrated with engravings of birds and eggs.
Fcp, 8vo. 5/-. *London.* 1824.

PAYNE, J. H. **The Norwich Plainhead Canary.** 6d.
London: F. W. Office. 188—.

PENNANT, THOMAS. **British Zoology.** 4th Edition. 4 vols. 8*vo.* *London: White.* 1776.

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PRIOR, C. **British Finches.** 1/-.
London: F. W. Office. 1898.

RETTICH, A. **Songbirds;** a Paper read before the National British and Foreign Bird Club. *About* 1897.

We do not know if this ever appeared in book form, and are therefore doubtful as to whether to include it in this list or not.

——— **Profitable Canary Breeding as Practised in Germany.** A treatise on the German Canary, its Rearing, Training, Exhibiting, &c.
London: F. W. Office. 1896.

ROBSON, J. **The Scotch Fancy and Belgian Canary.** With coloured plate and illustrations. 1/-.
London: Feathered World Office. *About* 1890.

——— **Canary Management.** 1/-. *Ibid* 189—.

ROTHERA, C. L. **Nottingham Arboretum Aviary.** A descriptive account of the aviary and its inmates.
? *Nottingham.* 1903.

RUSS, KARL. **Canaries:** how to Breed, Rear, and Keep them in Health. With pictures of 19 varieties, and a chapter on Mules. 1/-. *London.* ? 187—.

——— **Canary Birds:** How to breed for profit and pleasure. 2/6. *London.* ? 189—.

We think another edition appeared in 1891.

——— **The Speaking Parrots.** Translated by Leonora Schultze. Coloured plates.
Sm. 8vo. 6/6. *London: Upcott Gill.* *About* 1877.

Abridged from Dr. Russ' large work "Die Papageien."

——— **Foreign Aviary Birds.** Handbook to breeding, diseases, treatment, care and choice of, etc.; including how to tame and teach birds to speak; and chapters on management, cages, seeds, insect-foods, pastes, dainties, etc. *London: Dean.* *About* 1877.

Based on Russ' "Handbuch," but so much abridged as to be scarcely recognisable.

——— **The Breeding and Treatment of Foreign Aviary Birds.** Authorized translation by Frau Jennie Cassirer. 2/-. *London.* 1882.

Contains preface specially written for it by the original author, Russ.

——— **Diseases of Parrots.**

See Lauder and Brown.

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RUTT, H. B. **A Pet Bird.** A simple and practical guide to the management of pet birds. -/6.
London: F. W. Office. *About* 1890.

SABIN, J. **Canaries**: their varieties and points; how to breed, rear, and keep them in health, with remedies for the various diseases to which they are subject.
12mo. 1/-. 48*pp.* *London: Dean.* 1873.

Still advertised in 1903, "with an appendix by Russ." May this book be identical with Russ' Canaries of 187—?

SCHULTZ.
See Russ.

SHUCKARD, W. E. **Singing Birds.** Their Management, Habits, Diseases, Breeding, and the Methods of Taking them. Translated from the last German edition of Dr. Bechstein's "Chamber Birds." Revised and partly re-written by George J. Barnesby.
8vo. 2/-. *London: Routledge.* 1892.

SMITH, The Rev. FRANCIS. **The Canary**; its varieties, management and breeding, with portraits of the author's own birds. *Post 8vo.* *pp.* *VIII.* & 146. 3/6.
London: Groombridge. 1868.

——— The same, 4th Edition. *8vo.* 152*pp.* 3/6. *Ibid.* 1876.

SMITH, J., and A. A. SMITH. **Roller and Singing Canaries.**
-/9. *London: F. W. Office.* ? 1899.

SWAINSON, WILLIAM. **Animals in Menageries.** Illustrated with numerous woodcuts.
8vo. 6/-. *London: Longmans.* 1838.

Part II. of this book is devoted to "Domesticated Birds, suitable for Aviaries or Preserves." Its author was a celebrated Naturalist and Vice-President of the Ornithological Society.

SWAYSLAND, WALTER. **British Cage-birds.**
See under Blakston.

——— **Familiar Wild Birds.** Coloured plates by Frohawk.
4 *vols.* *London: Cassell.* 1883.

Brief references to the management in captivity of many of the birds described complete most of the life-histories.

SWEET, —. **The British Warblers:** an Account of the Genus *Sylvia.* With 6 coloured figures.
Roy. 8vo. *? London.* 1823.

See also various editions of Bechstein, from 1853 onwards.

SYME, PATRICK. **A Treatise on British Songbirds,** including observations on their Natural History, Manner of Incubation etc., with remarks on the Treatment of Birds in a domestic state. 15 hand-coloured plates.
8vo. 9/-. Col. 12/-. *London: Simpkin.* 1823.

THOMPSON, W. **The New and Complete Bird-Fancyer, or Bird-Fancyer's Recreation and Delight.** Frontispiece. *London: Alex. Hogg.* ? 1775.

The advertisement of this book occupies the back of the title-page of Girton's book on Pigeons.

—— **New and Complete Bird Fancyer,** containing instructions for Catching, Feeding, Rearing etc. the various sorts of Song Birds. Plates. 12*mo.* ? *London.* 1852.

Is this a reprint of the above?

(*To be continued.*)

Post Mortem Reports.

Vide Rules).

TITLARK and WAGTAIL. (Mr. Acutt). These birds died of pneumonia.

ZEBRA FINCH hens. (Mr. T. N. Wilson). The one marked with wire on the foot died of egg binding, a large soft-shelled egg being the trouble. The other was not breeding, the cause of death being pneumonia.

MOCKING BIRD, hen. (Mr. True). Congestion of the liver and bowels.

L.-T. GRASSFINCH, hen. (Mr. T. N. Wilson). Egg binding was the cause of death.

BLUE BONNET, cock. (Mr. T. N. Wilson). Chronic enteritis and consequent exhaustion.

CANARY. (Mr. Halliday). Septic pneumonia.

BLUE SUGAR BIRD. (Mrs. Miller). This beautiful little bird was much too fat. The immediate cause of death was acute congestion of the kidneys.

MASKED GRASSFINCH. (The Hon. M. Hawke). Enteritis. The cage the Nonpareil had been in ought certainly to have been well scalded two or three times on successive days with *boiling* water and Jeyes' fluid.

RED HEADED FINCH. (Mr. Fillmer). A condition of chronic congestion of the liver had proceeded to fatty degeneration of this organ, but an intercurrent attack of lung congestion was the immediate precursor of death.

CANARY. (Mr.——). The growth is certainly a "tumour"; whether or no it is a "cancer" will be determined when, after hardening, etc., it has been microscopically examined. It would have been better to have sent it in the body just as it was found, that I might have seen its anatomical position and attachments. There are many kinds of of tumours, the different cancers being sub-varieties of the malignant ones. W. GEO. CRESWELL.

Letters to the Editor.

BUDGERIGARS.

SIR,—I shall be very grateful if some member of the F.B. Club would give me some advice *re* Budgerigars. I have some very tame ones, but though they fly about the room all day, they do not seem to thrive. I feed them on millet, spray millet, and canary seed. They have banana and apple, but do not seem to care for anything but the millet.

Any directions will be gratefully received.

E. WARREN VERNON.

[The feeding is all right, though they might have a few oats sometimes. Possibly the room is not sufficiently ventilated. These birds generally do best out of doors.—ED.].

A STARLING'S FREAK.

SIR,—I saw a curious incident one day last summer whilst sitting in the garden in company with several friends. A Starling that had a nest, and whose mate had been killed, as well as several other pairs, was seen enticing the various young birds to come out of their holes in a thatched roof, by calling to them. As they came he deliberately pushed each bird down the very steep incline of the roof, so that it was killed on the ground.

He had tried to feed two of the parentless broods but found it too much; so I conclude he thought that charity begins at home, and considered it the kindest action to kill the others and to feed his own little ones. He killed eight in all. When we picked them up they were found not to be fully fledged.

DODO.

THE WILD CANARY.

Sir,—I see in the November number of the *Avicultural Magazine*, that the gentleman who does not wish his name to appear has continued his "criticism" of your article which appeared in *this* Magazine on the Wild Canary. He has discovered by some occult method of reasoning, that you confounded this bird with the Cape Canary. Had he read the article with the attention which should be brought to bear by even a hostile critic he would have seen that you actually contrasted the two birds, and I know that when you had the Wild Canaries you also possessed two Cape Canaries (*Serinus canicollis*), which you had obtained from myself.

One is tempted to paraphrase the celebrated advice of Lord Chesterfield to his son, and say:—"Criticise, honestly if you can,—but criticise."

I quite agree with you as to the colour of the Wild Canary; and your quotation from the British Museum Catalogue was not "elaborated," but quite correct. H. R. Fillmer.

AVIAN TUBERCULOSIS.

Sir,—The question of tuberculosis among birds is of such far reaching importance and interest, that I trust all aviculturists will closely watch the discussion, in which you have taken so prominent a part, with the closest attention. For should it be clearly shown that cage-birds are frequently subject to tuberculosis, the bird-keeping hobby would receive a very great blow, at any rate so far as indoor aviaries and cages are concerned.

It seems to me, however, that you have manfully thrown down the gauntlet when you challenge anyone to produce "a cage bird suffering from tuberculosis (that had not been deliberately inoculated for the purpose) and to demonstrate the tubercle bacillus in its organs." Nothing could be fairer or more precise than this. It would be perfectly easy for your opponents to produce and demonstrate the tubercle bacillus, if present, by the ordinary processes of practical pathology, and as far as I am personally concerned, if the challenge is not taken up by some competent person, it will prove to me beyond doubt that your position in the matter is the correct one. For you have demonstrated to expert pathologists, in very numerous cases which you have investigated, that the disease which has formerly been known among "birdy" people as tubercle (and where indeed small bodies are noticed in certain organs and have been called "tubercles") is in reality due not to the tubercle bacillus, but to a septic bacillus of quite a different species, and incapable (and this is the important matter) of producing tubercular disease in human beings, or as far as it is yet known any other baneful effect.

And let me point out to those of your readers who have no technical knowledge of these matters, that what they have to watch for are cases clearly described by an expert (presumably in most cases a medical man) who, working in a pathological laboratory, states the species of bird and mode of death, the naked eye and microscopical appearances of the chief organs, and finally isolates the organism causing the disease, grows this in culture tubes, and demonstrates its habits and microscopical appearances. There is, unfortunately, no lack of material—hundreds of corpses may be too readily obtained, and your readers may take it from me that unless the tubercle bacillus is clearly proved in the above way to be a fairly frequent cause of disease among cage-birds, the reason is to be found in those facts underlying the opinion, which you, Sir, have formed of its extreme rarity.

S. H. SNELL, M.D. & B.S. (Lond.)

Wandsworth Common, S.W.

BREEDING EXPERIENCES.

SIR,—Some of your readers may like to hear about my aviary during this year, and one great success which I have had, *viz.*, the breeding and rearing a Nicobar Pigeon. The parents have been in my possession for six years, having been bought for £4 from Mr. Jamrach. For three years they made no attempt at nesting, and I did not know whether they were both cocks or a true pair. Two years ago they laid one egg on the ground; did not sit on it, but hunted a Java Dove off her nest and took possession of a newly hatched young one. They reared it, and showed great affection for it. I put their own egg under a common pigeon, but it was unfertile. The following year several eggs were laid, and at last they hatched one. It only lived a week, and then fell out of the nest and died. This year they made several nests and laid an egg in each. At the end of July they hatched one young one and reared it. It is much darker in plumage than the old birds, has copper-red instead of bright green on its wings, and a black tail in place of the white one of the parents. It is very strong, flies well, and is as big as the old birds. When they make a nest they only lay one egg. I always examined the egg after they had been sitting ten days, and all were clear except the last.

I should like to know if this pigeon has before been reared in Great Britain. The nest was on the ground under a large fern, over which I put a shelter to keep heavy rain off.

My Green Cardinals made two nests but all the young ones died after they had been flying about, except one which is well and strong. I think the parents left off feeding them too soon. Eight or nine Saffron Finches, twenty-one Zebra Finches, two hen Bullfinches (from a Russian cock and German hen), also a few Bengalese and three Cockatiels have been reared this year. None of my Waxbills built. I think perhaps because they were out all the winter. I have now brought them into the conservatory aviary, and hope to have better results next year. My Paradise and Pintail Whydahs both had glorious tails and have not lost them yet; they have been in an outdoor aviary all through the year.

A friend of mine brought me three birds from Las Palmas, two Cardinals and a Cutthroat. He said he was sorry he could get no better or rarer birds, having been ordered home from S. Africa at two days' notice. I am sure your readers will be interested to hear that one Cardinal turned out to be the Yellow-billed Cardinal. It exactly answers to the description of it by Dr. Butler in his "Foreign Finches." My friend gave 1/6 for it, and thought it was a common bird. I should like to know what the real value of a Yellow-billed Cardinal is. This one is in perfect plumage and health. Dr. Butler says, quoting Dr. Russ, "this species is occasionally imported and its price is very high, £3 a pair, and probably in London decidedly higher."

I have now started Doves in one division of my aviary, and have got Zebras, Picuis, Bronzewings, Violet, Rufous, Senegal, Necklace, Barbary, Aurita, Wills', Java, Indian Greenwing, and Australian Ground Doves in my collection.

N. L. F. DUNLEATH.

[The Nicobar Pigeon has been bred this year in the Zoological Gardens. One egg to a nest is the normal number. On referring Lady Dunleath's query *re* the price of Yellow-billed Cardinals to Mr. Fillmer, he tells me that about two years ago he bought two for less than £1.—ED].

Some important letters are unavoidably held over.

Editorial Notes.

THE DRUMMING OF THE RUFFED GROUSE:—"Many have heard the drumming, a few have seen the drum-"mer, but who will show us the drum?" This question, thus crystalized by Gibson, has been continually asked by Naturalists ever since the first colonization of the American continent by the white man. The chief reasons, according to Dr. Hodge, for its not having been hitherto answered have lain in the irreconcilable wildness of the bird, in its steady disappearance before the march of civilization, and in another fact to be presently mentioned.

But at last it is completely answered. Prof. Hodge's achievement in rearing and taming the bird in spite of all prognostications to the contrary, has enabled him to show us the drum, and this he does in the November issue of *The Country Calendar*, a high class and beautifully illustrated American monthly, devoted to a judicious mixture of science and sport.

The most generally accepted theory, originally derived from Indian accounts, is that the bird pounds its wings on the log upon which it stands when drumming. Another is that the sound is produced by smiting the wings together over the back *à la* the pigeon in flight. Another—and this was the outcome of most careful ocular observation on the part of Prof. Brewster—is that the drumming is produced "by the forward "beats of the stiffened wings on the air, the planes of their "motion being nearly horizontal." All of these theories however are shewn by Dr. Hodge to be untenable on careful analysis, and indeed not even to be in consonance with the ascertained facts as to the posture of the bird while drumming. The fact of the matter is that none of the observers, from whom these theories are derived, were able to get at the complete truth, because "at just the critical moment when "the sound is produced, the wing moves with too lightning-"like rapidity, even in the first slow strokes, for the eye to "follow it."

One of the best of all previous descriptions, Audubon's, is as follows:—"The male bird, standing erect on a prostrate "decayed trunk, raises the feathers of its body in the manner "of a turkey cock, draws its head towards its tail, erecting the "feathers of the latter at the same time, and, raising its ruff "round the neck, suffers its wings to droop, and struts about

“ about on the log. A few moments elapse, when the bird “ draws the whole of its feathers close to its body, and, stretching itself out, beats its sides with its wings in the manner of “ a domestic cock, but more loudly and with such rapidity of “ motion after a few of the first strokes, as to cause a tremor of “ the air not unlike the rumbling of distant thunder . . . . “ . it may be heard a distance of two hundred yards. . . .”

By means of a tame bird, and four cameras focussed on to the particular spot on the log which had been selected by the Grouse for his performance, Dr. Hodge secured forty negatives in two days, and is able to tell us authoritatively where the error precisely lies in the above graphic account. “Some of the “ back feathers are drawn close, but the tail is spread some- “ what, the ruff is partially erect and the feathers of the neck, “ breast, and particularly the sides, are much puffed out.” The airsacs of the breast and abdomen being distended with air, and the side feathers being drawn strongly back to the skin it is then seen that “ a wide strip of bare skin is exposed “ down the mid-line of the abdomen.” Hence the “ contour “ surfaces of the strong wing supports along thesides are made “ to enclose a large cavity filled with air, and this acts like the “ resonance chamber of a drum and yields the booming throb “ to the air ” on the impact of the rapid blows of the wing. Did the wings beat on the solid body of the bird “ the stroke “ of the wing would produce a sharp slap instead of a resonant “ tone.” One of the photographs, taken before a white sheet, well illustrates the extreme rapidity of the wing strokes during one stage ot the drumming, for they appear as little else than a mere shadow or cloud, while the rest of the bird is in sharp relief.

From Dr. Hodge’s observations it would appear that the drumming is purely a mate call, and is moreover a fundamental action on the part of the species, not due in the birds of any one generation to mimicry of those of the preceding one.

AVIAN TUBERCULOSIS :—This subject is attracting considerable attention. Not only is there the able letter from Dr. Snell which will be found on another page, but I have also received several private and sympathetic communications on the subject. One of these, from a member belonging to the medical profession and a perfectly friendly critic, rather indicates however his not having properly grasped the point for which I have all along contended. He emphasizes the fact that Avian Tuberculosis is “ still adhered to ” in a certain recent text book on Bacteriology, and asks me if I have not seen this. Since there are others who probably fail in the same way to realize my position, a few words here in answer may not be amiss. First of all I hope to be pardoned if I say that not only have I a fair acquaintance with the somewhat scanty details as to this disease given in the various students' text books, but that I also am not altogether unacquainted with a good deal of literature on the subject which is not usually to be found on medical men's shelves. Secondly, I am certainly of opinion that this disease ought to be mentioned in the book my friend alludes to, because if he will read my Editorial of last month he will see that I do not deny, nor have I ever denied, that "Tuberculosis does exist in birds." [In fact I have in my possession a microscopical slide preparation from a fowl's liver which does show the acid fast bacilli of Avian Tuberculosis, and I have seen one other from the same organ in a Pheasant, though in neither case was I able to get any history of the bird or even of the slide]. But I do say that out of a thousand or more birds, embracing almost every Family, which have been bacteriologically examined by either Dr. Clarke or myself, not one single case of Tuberculosis has been found, and all those cases which would appear to the imperfectly informed to be Tuberculosis, have turned out to be simply Septicæmia, the disease which has been fully described in this Magazine, but which has yet to be described in the students' text books. If I am wrong in what I say, then let those who would be only too pleased to show me to be in error, come forward and do so. For my own part I am willing to assist any man living (except my opponent in the *Avicultural Magazine*) in any bacteriological examination of any cage bird which appears to have tuberculosis, and, as Dr. Snell plainly shews, it will then be a simple matter for him to get at the truth. But to misrepresent my position, and then to travesty the words of a distinguished author, as has been recently done, in order to "prove" that my position, (the one they themselves have made for me), is wrong, is hardly what one expects among people who would like to be thought scientific, and the value of their claims in this direction may easily be gauged. I write thus plainly because I have heard that my exposure of my opponent's methods amounts to abuse. I differ in this; and I venture to say that on reflection most people will agree with me that I am perfectly justified in all I have said.

W. GEO. CRESWELL.

Mr. WILSON'S PENNANTS.

The Breeding of Pennant's Parrakeets

(Platycercus elegans),

WITH SPECIAL REFERENCE TO THE COLOURING OF THEIR YOUNG.

By T. N. Wilson, M.A.

In the autumn of 1903 I saw in one of the big dealers' shops in the East End of London about twenty Pennant's Parrakeets, newly imported. The majority were in one of those large box cages familiar in such shops, but a few were in pairs in separate cages. I noticed that these supposed pairs consisted in every case of one bird in adult, and the other in immature plumage, and the dealer's wife said that the greenish or immature birds were the hens. I pointed out that although they might be hens, their plumage showed, not their sex, but their age. The lady paid no attention to my remarks and evidently thought that I knew nothing about the matter. I confess that my knowledge of Pennants was not great, and was not at that time even first-hand, as, although I have been an aviculturist since the seventies, I had never possessed any of these birds. On returning home I wrote to the dealer for four Pennants so as to make sure of a pair, because I did not trust the shop views on sex distinction. In due course they arrived, two in mature, and two in immature plumage. Unfortunately I did not notice them very particularly, and do not remember the exact markings and colouring of the immature birds, or whether there was any black about them. They were in a rough and dirty condition, and differences in their plumage could not therefore be so readily discerned. Also, at that time, I was not prepared to look for any striking dissimilarity in the colouring of young birds.

The writers whose works I know do not give full information, or are silent on this point. Wiener and Butler say nothing about it. Gedney says "The nest down of the young is of a bright fawn colour, giving place to a suit of rusty brown feathers, unrelieved by any shade save a darker tinge upon the back"; Dr. Greene, "The young are dingy-looking creatures"; and Seth-Smith, "The young are olive-green with the cheeks and wing-coverts blue; the red generally appears first on the crown, throat and upper tail-coverts, gradually extending over the whole body." As will hereinafter appear, this last description is the most accurate of those I have quoted, and applies to some of the young, but not to all.

I kept my purchases that winter in large box cages in my heated bird-room, and turned them into one of my outdoor aviaries (37 ft. by 7 ft. by 12ft. high) in the middle of the following June. Here they thrived exceedingly, and their plumage recovered from the effects of close quarters. Also the two immature birds donned full plumage and lost the greenish hue of youth. They had as companions a pair of Rosellas and a pair of Cockatiels, with whom they agreed perfectly until the spring of this year, when I noticed that one of the supposed cocks—the largest and most brilliant of them all—verified his sex by paying marked attention to one of the supposed hens, *viz.* one of the birds which had been in immature plumage when I received it. At the same time he became very impatient at the presence of the other Platycerci and chased them all over the aviary. For the sake of peace I disposed of the other two Pennants, and then found that he concentrated his persecuting zeal on the cock Rosella.

One morning on going into the aviary I discovered the seed trays bespattered with blood, and, on looking round for the cause, saw the cock Rosella in pitiable plight. The whole of his upper mandible had been torn away. I caged him at once and did what I could to prolong his life, feeding him by hand on sop. Perhaps it would have been kinder to have ended his miseries at once, because after three days he died. Of course I removed the hen Rosella and left the pair of Pennants to share the aviary with the Cockatiels only, of whom they took no notice. I presume that the immunity of the Cockatiels from attack was due to their belonging to a different Family.

The cock now fed the hen most assiduously, and very soon she began to look mopy and sat about with ruffled feathers. If I had not read Gedney's book I should have feared egg-binding. On page 78 of Vol. I. he thus writes, "For two or three days preceding the laying of an egg the hen becomes very dull and mopy, sitting at the entrance of the nest and dozing, her feathers being slightly puffed: but these symptoms must not be mistaken for egg-binding." On looking up this passage I see that he advises sop, with which he says these birds should be regularly supplied, with the addition of meat dripping when nesting. I may therefore mention here that none of my Parrakeets will eat sop, although I have frequently offered it to them when nesting. I gave it to the Pennants when I thought their young had hatched. It was placed fresh on the seed tray three or four days running, and removed next morning untouched.

To return from this digression: the Pennants had taken possession of a nest-box hung high up on the wall of the inner part of the aviary. This box was 2 ft. long, 11 inches wide, and 13 inches deep—outside measurement, and made of 1¼ inch rough boards, with a bottom 3 inches thick hollowed into a small basin at the end farthest away from the entrance hole. Here, on June 5th, I found three white eggs in shape like a pigeon's, but much smaller, and on June 10th, when, during the absence of both birds outside an opportunity again occurred of inspecting the nest, I found six eggs. At this time I was making alterations in the adjoining aviary which necessitated much hammering. The hen was off the nest frequently and for an hour or more at a time, and I was afraid therefore that the eggs might not hatch. However, all went well, and on June 25th I first heard infant voices proceeding from the big box, and when July came in the sounds grew louder and the seed-pans required more frequent replenishing. The noise of the young in the nest has been aptly described as resembling "the barking in miniature of a pack of hounds."

Two young birds left the nest on July 31st, and three more followed the next day. On examining the nest a day or two after I found the sixth egg apparently unfertile. The tails of the young Pennants were short and their wings comparatively long. They were able to fly at once, but slowly and somewhat erratically, and their first efforts in this direction were heartrending to their owner and painful to themselves. They failed to appreciate the fact that they could not fly through the half-inch wire netting, and very soon all had sore and bleeding noses. Two of the five were olive-green on the back and breast, with no black apparent anywhere, and crimson only on the crown, throat and vent, with just a dash of crimson on the rump. Their cheeks and the outer edges of their wings were blue as in the adult. The other three were similar in colouring and marking to their parents, except that the black feathers on the back, which in the parents are edged with crimson, were edged with green, and the crimson on breast, rump, and head was duller and had a greenish hue.

There must be some reason for this marked difference in colouring between young from the same nest, and at present my theory, founded on a limited experience only, is that it is sexual, and that the birds with no black feathers are hens and the others cocks. This theory has so far been supported by a post-mortem which unfortunately became necessary in the case of one of the three with black feathers, which flew against the rafters of the aviary, and died of concussion of the brain. I sent it to Mr. Gill, whose report pronouncing it to be a cock appeared in the September number of the *Avicultural Magazine.*

All the deficiencies of an aviary are not discovered until every kind of bird for which it was intended has been kept in it. The rafters of the outer flight of this aviary are 3 in. by 2 in., and under the wire netting which they support. The young flew as near the wire roof as they could, and in so doing knocked their heads against the rafters with the above-mentioned disastrous result. After losing this bird I nailed strips of old lace curtains to hang from the rafters, to prevent the other birds from flying too near and suffering a similar fate. This had the desired effect, but when my young birds had learnt their lesson, they tore the lace down and used it as a swing, turn and turn about.

I soon discovered that they had a great partiality for monkey-nuts, so I trained them gradually to take them from my fingers, first through the wire netting and then from my hand inside the aviary. Now they fly to me whenever I enter their compartment, and alight on my shoulders, head, and hands, and if my hand is closed nose into it for nuts. They are especially fond of playing with my shoe-laces, and run after my feet like kittens.

At the time of writing (November), the birds which had no black in their plumage are beginning to show on their backs a few black feathers edged with crimson, and their breasts are gradually becoming crimson all over. The other birds which had black feathers with a green edging on their backs are changing the green for a crimson edging.

In conclusion I may state that these young were reared by their parents entirely on dry seed and groundsel. The seed consisted of canary, millet, white oats, wheat, and hemp, and the only green food given was groundsel, but as the outer flight is large and grass grown, the parent birds may have found other food besides.

On the Nesting of some Gambian Birds.

By E. Hopkinson, D.S.O., M.A., M.B.

LAST year I gave in our Magazine some accounts of the birds of this part of the world, and now I will endeavour to supplement that account by describing the nests of the commoner Waxbills, Weavers and Finches, which I have come across since I wrote my first notes on the subject. Those notes were indeed written before I had ever been out here during the whole of the rains, (the breeding season among our birds), so that I could then give but few particulars about their nests and eggs.

The Firefinches (*Lagonosticta senegala*) nest in the grass roofs of native huts and also in grass tufts on the ground. During the dry season they hardly ever leave the villages, where they live on the waste corn in the yards and on various grass-seeds, flying in and out of the houses regardless of their other occupants, and roosting at night in their old nests in the thatch. During the rains, the breeding season, they however seem to split up into two parties, one of which remains about the village and nests in holes in the thatch, adding a lining of long soft grass and a few feathers, or else building roughly spherical nests between the cane rafters and the thatch which they support, while the other party retires to breed in the scrub outside the village, (though they never go far away), where like other Waxbills they make covered circular nests of long grass, with a few feathers for inner lining, on the ground in grass-tufts, generally beneath the shelter of some prickly bush, which protects the nest from the feet of grazing cattle or other animals and from the fingers of the idle small boys, if such creatures exist here. The eggs are pure white. *L. rufopicta* similarly, I think, also nests both inside villages and in the bush, though the only nest of this species I have found was in the grass just outside a native town, and was a similar structure to that made by the Common Firefinch.

Cordon-bleus (*Estrilda phœnicotis*) build in thick thorn-scrub, selecting usually the fork of some bush of this sort a foot or more from the ground. The nest, a covered one, is loosely built of grass, which on the outside is left irregular and with the ends sticking out in all directions, so that it looks more like a mass of grass accidently caught in the branches than a bird's nest, but inside it is smoothly lined with fine grass mixed with hairs, feathers, etc. The eggs are white.

Lavender-finches (*E. cœrulescens*) make much the same kind of nest.

Orange-cheeked Waxbills (*E. melpoda*) are generally found nesting in company with Cordons. The nest is usually placed in a grass-tuft underneath a small bush, not uncommonly among recently felled thorn-trees, on ground which is being cleared for cultivation in the following year; occasionally it is actually a little way off the ground in a low bush. It is a ball-shaped structure composed of soft grass, lined with a very smooth inner lining of fine grass, hairs, tree-cotton and feathers. Eggs white.

Bronze Mannikins (*Spermestes cucullatus*) build perfectly circular nests, with a single inner chamber and a side opening, at the ends of branches of larger thorn-trees; they are loosely constructed of fine grass, with a smooth surface both inside and out. Their eggs also are white.

The nests of the Combasous (*Hypochæra ænea*) are very untidy structures recalling those of the House-Sparrow, and are built in holes in the thatch of roofs or in mud walls; they consist merely of a rough lining of dry grass, with a heap of the same mixed with tree-cotton, feathers, donkey- and sheeps-hairs and perhaps a small piece of rag, on which the white eggs are laid. The male during the breeding season appears to take very little, if any, share in the labour of nest-building or in tending the eggs or young, but leaves it all to his harem, each member of which builds and looks after her own untidy domicile.

The Paradise Whydah (*Vidua paradisea*) makes a comparatively large domed nest with a flattened bottom and a side-entrance, suspended between two or three reeds or long grass-stalks, and formed by irregularly woven long grass as the main framework, with an inner lining of finer and shorter lengths: the nests are built in groups, the property of one or more males and their half-dozen consorts, and are always situated in the centre of a swamp, or at any rate in some place where the ground remains covered with water until the very end of the breeding season. The only nests which I have seen (and which were only accessible by wading) were old ones, but only just vacated by the young, and I am practically certain that they belonged to these birds,—though unfortunately I could find no eggs and never actually saw a hen leave any of the nests,—as the only birds about this particular patch of reeds were a number of out-of-colour Paradise Whydahs, (presumably both hens and young), with a few adult full-coloured cocks.

The Yellow-backed Whydah (*V. macrura*) also, I think, makes a similar but larger nest: at least they retire to similar places to breed, and I once found a couple of such nests close together in a water-logged grass-patch, which I put down as belonging to these birds.

I have only found the nests of two of our Bishops so far, namely the Crimson-crowned (*Pyromelana flammiceps*) and the Orange Bishop (*P. franciscana*). The former nest in colonies in the long grass of swamps, making domed nests with a short porch-like side opening, attached to the longer grass-stalks, the main stems of which with the living leaves are woven into the nest-wall. The eggs I have never seen, as I have never been able to get near enough to the nests, through their being always situated over standing water or deep mud.

The latter, the Orange Bishops, nest in larger colonies than the former, building circular grass-woven nests of rather a flimsy structure, suspended to grass-stalks, or reeds in the swamps as a general rule, but they also occasionally trust the dry land sufficiently to build in cornfields, attaching their nests to the stalks of the small "koos," (a kind of millet which grows to about the height of eight feet), but this only occurs in fields far away from the villages, and which are on this account not much visited, or perhaps they more commonly select some patch of "koos," coming up a second year on some now deserted piece of land, which had been a cornfield in the preceding year. They lay light-blue eggs.

Three of the Yellow Weavers are very common here; the first is *Sitagra luteola*, whose nests in their thousands line the upper reaches of the river and its creeks. They are more or less retort-shaped structures with a short neck pointing downwards, made of loosely woven grass stems and suspended from the outer ends of thorn-bushes on the river bank, wherever they overhang the water sufficiently to make raids from monkeys and other animals impossible. The egg-chamber is separated from the entrance by a sort of grass-woven perch and is lined with fine grass with a sparse admixture of small feathers. The eggs are white.

Hyphantornis melanocephalus breeds in mimosas and other thorn-trees; the nests are retort-shaped with a short neck and are hung from the outermost branches, not more than one or two on each tree, nor necessarily overhanging water as is always the case with the birds just mentioned; in fact I should say that these birds nearly always select a dry situation. The eggs are pale olive.

The Rufous-necked Weaver *(H. cucullatus)* the largest of our Yellow Weavers, nests in large colonies in cocanut palms, round the tops of which at the bases of the leaves they build a mass consisting of numbers of their spherical nests of grass, during the building of which and while the young are inside, the assembled multitudes of mothers and fathers keep up an extraordinary continual chatter. As I have never yet climbed a palm-tree (and am never likely to) I cannot describe the nests more definitely and know nothing of their eggs.

The last of the Weavers I have to deal with is the large black Buffalo-Weaver (*Textor senegalensis*), a very common bird in places here, but hardly known as a cage-bird; in fact, I rather doubt if it would live in captivity at all, as its natural food consists almost entirely of insects. They make very large nests of small sticks, twigs, and grass plaited together, and placed in large trees (commonly those with thorny trunks) in or just outside villages, where custom and the position they select—at least twenty feet from the ground—protects them from interference by man, and at the same time minimises danger to the eggs or young from snakes and other beasts of the bush, which naturally avoid the interiors of villages. About half a dozen pairs share each nest, which is thus an avine tenement-dwelling; the mass of twigs, etc. which forms each one is often three or four feet across, being added to year by year, and has several tunnels leading into its interior, each to a separate chamber, in which the eggs of each pair are laid. The nests are used throughout the year as roosting places. The eggs are dirty white streaked with grey.

Of the finches of Gambia, I only know the nest of two species: the Green Singing Finch (*Serinus icterus*) and the Grey-headed Sparrow (*Passer diffusus*); the latter of which builds an untidy nest of grass, wool, or any available building material in holes in stone walls, or roofs of houses, and also in trees. The eggs are pale buff with dark markings of the same colour.

The Green Singing Finch makes an open cup-shaped nest in a bush in gardens and other more or less cultivated places; the outside is composed of fairly stiff short grass plaited into a main wall of softer and longer pieces, the inner lining of which is a smooth felted layer of very fine grass, small feathers and hair. The eggs are pale blue with a few small brown spots at larger end.

The nests of the other Gambian birds of these two families I do not know at present, but hope as time goes on to come across at least some of them. The birds omitted are the Common Waxbill, the Vinaceous Firefinch, the Magpie Mannikin, the Cutthroat, the Red-billed Weaver, the Napoleon Bishop, the Pintailed Whydah, the Grey Singing Finch, the Rock Sparrow, and one or two rarer species.

The Grey-Winged Ouzel.

Merula boulboul,

By Wesley T. Page, F.Z.S., &c.

This bird is also known as the Grey-Winged Blackbird. He has a fine carriage, in fact is what a keeper of Game Fowls would call a "reachy" bird; he is full of character, fearless and confiding. These are traits which always make a *perfect* cage or aviary bird, and this Ouzel certainly merits that title.

He will, as a rule, keep without question the position of lord of the aviary; yet there is nothing of the bully about him, (I know only the male from personal experience, and so far only one individual), for I have found him quite harmless in a mixed collection of birds, ranging from the smallest Waxbill to Cardinals, Cockateels, etc. It is most amusing to see him put the male Cockateel to the right about, if he considers him assuming too much.

Plumage: The whole of the plumage of the male is a rich black, excepting the median and greater coverts, tertiaries, and the outer webs of the secondaries, which are ash-grey with a silvery sheen; the black is duller on the under parts, and the outer edges of the feathers are greyish, imparting a sort of undulated or scaled appearance to the whole of the plumage of the under parts; the upper parts are really marked in the same way, but the grey is darker, and the scalings are only noticeable under close observation; the legs and feet are brownish yellow; bill, orange-yellow; iris, rich dark brown, and the edges of the eyelids are orange-yellow, almost chrome.

The female is darkish ashy-brown over the whole of the plumage, with the exception of the wing coverts, tertiaries, and secondaries, which are pale rufous; iris, reddish; legs, greyish-red, or rather perhaps a cold sienna colour; bill, yellow, merging into horn colour at the tip.

It will be noted that the above description differs somewhat from that of Oates and Jerdon. At the same time it must be understood that the description is from one specimen only, compared with another at the Zoo; and I should say here that the description of the female is from notes carefully made from a specimen (now deceased), in the Western Aviary at the Zoo. Take the bill of the male which the above writers describe as coral-red; there is not any suspicion of this colour about it, neither is there any black on the tip, i.e. during the breeding season; in the winter, or rather after the Autumn moult, the bill is paler yellow and *the tip is horn black;* but on the approach of the breeding season, or in my aviary in the early spring, the bill becomes rich orange-yellow, and the *black disappears from the tip;* the edges of the eyelids at the same time become a darker and richer yellow, and the whole of the upper plumage assumes an intensity which is entirely lacking during the off season. I should here say that the specimen above described has just come through its third moult, and was presented to me by my esteemed friend and fellow aviculturist, Mr. E. W. Harper. If I remember rightly it was one of a brood of four, which he hand-reared while in India; these four constituting, I believe, the only living specimens at the present time in this country.

The bird is appreciated chiefly for its tameness, confiding demeanour, and also undoubtedly fine appearance, though it is not clad in gorgeous colours. Though he is in an enclosure having a floor area of 230 sq. ft., which is a perfect jungle of growing plants, bushes, weeds, etc., he will come and take food from my hand when I am inside, or come to the wire netting and remain there till I give him some tit-bit when I do not enter. He is fed on soft food mixture of

Spratt's Partridge Meal, preserved yolk of egg, ants' cocoons, dried flies, household bread crumbs and boiled potato, with a liberal sprinkling of scalded grocers' currants. In addition he gets some living insects daily (mealworms if nothing else is available), also ripe fruit and green stuff. He bathes three times at least each day, and is so fond of the water that he is usually in the bath while it is being filled, and does not object to some of the water being poured over him; consequently he is always in perfect trim, in fact a perfect avian "masher."

Not the least of his attractions is his beautiful song; this was rather meagre when he came into my possession, but he was just commencing the moult; he has since learnt the Blackbird's song, (these birds frequent my garden in fair numbers), and his notes are very rich, full, clear, and flute like; at times they are somewhat marred by a rather harsh scream, which is a good imitation of the call of the male Cockateel. His song can be distinctly heard at least 300 yards from the aviary. He does not run, but hops, and when his spirits happen to be high, these hops are prodigious; he arches himself almost in a crescent, beak and tail all but touching the ground, the tail being spread fanwise, and goes bounding forward. At such times the Cockateel flees for his life; but it is only exuberance of spirits on the part of the Ouzel, and he never does any harm. He has for companions, Waxbills, Grassfinches, Weavers, Doves, Cardinals, Liothrix, Buntings, Budgerigars, and Cockateels. I must speak of him as I find him, and in the above company he has been, as I said before, a well conducted and most engaging fellow, and in spite of high spirits and large size has not harmed the smallest inmate of the aviary.

He is as "hard as nails," and cares nothing for the worst vagaries of our English weather. His flight is very strong and swift, yet almost silent; he is fully as large as our native Blackbird.

Dr. Butler has succeeded in rearing a hybrid between this species and the English Blackbird, and I hope to do so myself this coming season.

This bird is frequently kept in cages in India, where it is fairly common, yet it is one of the rarest foreign visitors to our markets, and according to Dr. K. Russ this is also the case on the continent.

In conclusion; he ceases his fine song on commencing to moult. During the moult he hides away under the bushes, and is seen but little until it is complete; during the winter he only mutters a few notes, but usually by early April he is in full song again and also in breeding condition. I have not given any notes as to the wild life of this species, this being so fully described in "The Fauna of British India" and other works and journals as not to need repeating here. At the same time I trust the foregoing account will interest, and perhaps induce some of my readers to take up the keeping of this family, for they are all equally desirable birds for cage or aviary, providing they have ample space in which to live.

A Bibliography of Cage Birds.

Up to A.D. 1900.

By E. HOPKINSON and W. GEO. CRESWELL.

(Continued from page 243*).*

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Post Mortem Reports.

(*Vide Rules*).

GREEN SINGING FINCH. (Mrs. MacAdam). Pneumonia was the cause of death. I hope in the near future to write a paper on this disease.

WONGA-WONGA PIGEON. (Mr. Castle-Sloane). Several of this gentleman's doves have been dying lately after very short illnesses. In this bird pneumonia was present, and as this is an infectious disease—belonging to the septic group of diseases—it is highly probable that the others had died of the same trouble.

CANARY. (Miss Hincks). This bird was sent to me alive, suffering from a swelling on the face, which proved to be a colloid growth originating from the orbit of the eye. No treatment would have availed.

MISSEL THRUSH. (Miss Nicholson). This case presented pronounced congestion of liver and lungs.

[I regret to say that most of the birds sent to me during the month could not be examined, owing to my having been on the sick list]. W. GEO. CRESWELL.

Letters to the Editor.

TUBERCULOSIS IN BIRDS.

SIR,—Some time ago, in one of my own works dealing with a phase of biology attaching to the human subject, I had occasion to notice the importance of what you have done in the direction of avian pathology and hygiene. I was, therefore, the more glad to see Dr. Snell's appreciative letter on the above subject in the last issue of this Magazine.

It is very clear that both inside the medical and veterinary professions, and to a still greater extent outside them, there has hitherto been a lamentable confusion between avian tuberculosis and the avian septicæmia which has been so ably investigated and brought to our notice by Dr. R. H. Clarke and yourself.

It is equally clear, taking into consideration the existence of the present widespread crusade against all possible sources of tubercular infection in man, that we owe both of you gentlemen a deep debt of gratitude for pointing out that the disease, so common among birds of all kinds, is after all not tuberculosis, and need excite no apprehension on the part of the crusaders. Whether or no this is apparent to the laity, it is quite plain to such members of the two medical professions as are abreast of modern biological science.

I entirely agree with your action in challenging the medical man mentioned in your Editorial on this subject in your November issue. It is the best of all arguments against reckless assertions, whether they be traditional or new.

J. SIM WALLACE, D.SC., M.D.

30A, Wimpole Street, W.

SIR,—After your challenge your opponent declines to (or cannot) bring proof on his side of the question. This, I think, should be enough to convince anyone of the correctness of your views. Personally I have been convinced by your articles for some time. GEORGE MASTER, M.B., B.C.

CHAFFINCHES AT THE WINDOW.

SIR,—Perhaps the following facts by an eye witness may interest some of the readers of this Magazine.

Last Sunday evening (Nov. 26th) about seven o'clock, when a gale from the S.W. was blowing, a tapping and faint fluttering sound was heard against one of the windows of the room where two or three of us were sitting; no attention was paid to this at first; we thought it might come from a spray of ivy loosened by the force of the wind, but finding it continued and that the fluttering sound was more distinct, we decided it must be a bird asking for admittance, and accordingly opened a few inches of the lower window sash; immediately a cock Chaffinch in full plumage with very bright eyes hopped in, and flew round and round the room, knocking its head against the ceiling, and perching for a second on picture frames and curtains, &c., then down to the floor, when it was easily caught and placed carefully in a small travelling cage. A short time afterwards, less than half an hour, a similar sound of tapping and fluttering was heard outside another window of the same room, and on opening it a second cock Chaffinch almost *tumbled* in, in its eagerness, and flew up to the ceiling with a loud chirp of joy, its eyes even brighter than the other's, evidently delighted at finding himself safe and sheltered from the storm. We soon caught and placed him in the cage with the first one, where they rested quietly all night, and were released the next morning when the gale had gone down. The poor little birds must have been roosting together, and on being dislodged by the violence of the wind, were attracted to the windows by the light shining through the blinds, to look for shelter. It seems curious that they should have found their way to different windows, one facing North East, the other South East, of the same room.

N. M. E. WARD.

MOLES IN THE AVIARY, &c.

SIR,—Please tell me through *Bird Notes* how to keep moles out of my garden aviary; we have traps set inside and all round, but so far have caught none, and they make fresh heaps every night.

Also, is it wise to allow Budgerigars to nest at this time of year? If it is risky how can I prevent them?

I have also a cock Rosella Parrakeet, which has been in perfect health for some years till just now, when he has taken to panting, and at times gasping for breath; he feeds well and bathes, and some days is much worse than others, and is thin and weak. I have taken him into the house, and put him in a sunny window, feeding him on hemp, canary, and linseed, also green food. What can I do for him? E. BROOKSBANK.

[Moles are not easily exterminated by means of traps, because their sense of smell is so acute that they can easily detect the human agency in the proceeding. It is said that they can be scared away by simply pouring ordinary paraffin oil into their runs.

The Budgerigars should not be allowed to nest till April—or the middle of March at the earliest. Take away all husks and nest boxes, and if they still show signs of wishing to nest, separate the sexes if possible.

To advise any *particular* treatment of the Rosella, without knowing precisely what the given symptoms are due to, would not be honest to you on my part. A careful perusal of the "Story of Bird Death" and particularly of pages 35 and 36 in the number for last April, will also show how impossible it is for even a professional medical adviser to honestly say what is the matter with this bird upon the data above given. Of course it would be quite easy for me to give some loosely worded and misleading opinion and advice, and you would be none the wiser; but we have to remember that, apart from the ethical considerations involved, there are plenty of well informed medical men about nowadays, and one's own reputation is at stake.

Yet a little *general* advice will be admissible. Whatever the disease is from which your bird is suffering, it is pretty certain that the organs of digestion are either primarily or secondarily affected thereby to a greater or a less extent, also there is no doubt but that a sick bird should be protected from cold. Therefore take away the hemp and linseed as being too rich in fat, confining the bird to Canary seed, dry unsweetened biscuits, and sound green food, and continue to keep it in a moderately warm place, well ventilated, but free from any draught directly impinging upon its body.—ED.]

GOULDIAN FINCHES.

SIR,—My magazines only recently came to hand, and in looking through the same I was much surprised to gather from Mr. Farrar's article in the July issue that he cannot keep Gouldians under cool treatment, also at Dr. Greene's statement (September issue) that Gouldians cannot endure cold. For many years I debarred myself the pleasure of keeping these lovely birds because I could not give them hothouse accommodation; but at last, like Mr. Farrar, I found their charms irresistible, and elected to take the risk; in due course I procured a pair, and though I have not yet succeeded in breeding them, they are to-day (November 21st) the fittest and cheeriest birds in my aviary. Of course I am aware that Yorkshire is colder than London, but from my experience with them I should not hesitate to keep them in any aviary (in any locality) having a South aspect; if the situation was an exposed one then I should so arrange that the aviary was only open at the top and to the south. The only shelter my birds get is a lean-to-shed, *entirely open* at the front (S), and the flight is only open at the front (S) and top: possibly some will say cold treatment is responsible for their not breeding, but I am sure such is not the case, and the cause of my lack of success in that respect will be at once apparent, when I state that they have for companions two species of Cardinals, Cockateels, Budgerigars, etc. Kept indoors sufficient heat should be given to exclude frost at least. [Why?—Ed]. Of course under such conditions they get no special treatment; they have access to rice in the husk, canary, millet, oats, wheat, rape, hemp, blue maw, sunflower, and dari, soft food mixture consisting of fine Game or Partridge Meal, household breadcrumbs, *best* ants' cocoons, dried flies, fine crissel, grocers' currants, and boiled potatoes, also fruit and greenstuff. From observation they take a little of all except the hemp, which I have never seen them take. I should say in the summer they get an almost unlimited supply of grass flowers, and also at the present time whenever they are procurable free from frost. My birds bathe (I have a glazed sink sunk in the ground for bath with a number of stones in the bottom of it); the Gouldians do not go into the deepest part as most of the birds do, but generally choose a place where their legs are well covered, and the body only just touches the water; nevertheless they splash themselves well, and get their plumage thoroughly wet all over. In conclusion, for this is already much longer than I anticipated, I will simply say that although the weather of the past six weeks has been a mixture here in London of cold, wet, fog, and frost, with only an occasional sunny, genial day sandwiched in between, they have come through it all smiling, and if outward appearances count for anything at all, they are thoroughly sound, healthy, happy, and contented.

The lovely Parrot Finch is just as hardy, and will thrive under the same treatment if acclimatised specimens are bought, or newly-imported specimens procured in late May or June.

WESLEY T. PAGE.

P.S.—Since the above was written I have seen Captain Perreau's admirable and instructive article on these birds in the November issue. It is most interesting to have this confirmation of the fact that wintering birds out of doors, even in climes where the contrast between winter and summer is more pronounced than in England, is not "unintentional cruelty," nor yet purely experimental, but is now proved from many sources to be rational and reasonable treatment for the great majority of foreign birds. Even most of the Tanagers can be so kept. To come back to the Gouldians, I am somewhat of the opinion that they would have done equally well without the bread and milk; this, as Captain Perreau states, is hardly correct diet, and I am of the strong opinion that the range of diet named in the above notes, would produce a more healthy and vigorous stock. There are one or two other points of difference in our experiences, which are worth noting, *viz.*, my birds pick over the soft food mixture, principally for the ants' cocoons I believe, and again they do not refuse insects; they take an occasional mealworm, *i.e.* when the Cardinals, etc. give them a chance, and I have observed them capture spiders, small moths and flies, and also search the foliage in the aviary for aphides, etc.

THE CORRECT SHAPE FOR PERCHES.

SIR,—I note in "The Story of Bird Death" in the Nov. number, your remarks *re* flattened perches and paper for the bottom of cage for Wagtails, &c. As to smooth flattened perches I had come to the conclusion that this was the better form of perch for birds in cages. Of course the size must be in accordance with the birds feet. I also question the advisability of having perches with the bark on: unevenness in size of the perches I quite believe in as it keeps the muscles in play —in my cages there are seldom two alike. Wagtails, when running about, are the greater part of the time on uneven flat surfaces with the toes extended, which require little or no grip, while running about in a cage on round perches there must be a strain on the feet.

Paper, even if changed every day, is objected to on account of it being insanitary, and coarse absorbent sand half an inch thick advised in its place. I have seen a piece of sandstone an inch thick which could be bent out of straight, but I have not seen pebble or pure sand that would absorb water better than blotting paper, and I am not quite sure that sand is the best thing for birds to be running on. I have heard of people putting peas in their shoes when walking to a certain place. [To walk with a few peas confined in one's boot is hardly a parallel to walking barefooted on thick yielding sand.—ED.]

Feeding vessels:—Inside is the tidier, and the cage looks best, and there is not the dirt and food thrown about; and for soft food the open hopper is better than the covered glass; of course the inside vessels must be so arranged that the food and water cannot be fouled.

The above subjects are of such importance that I would respectfully ask you to put a note in *Bird Notes* asking the members to give their opinion as to the best kind of perches, the covering for the bottom of cages, and the best place for the food vessels. JOHN ACUTT.

[I regret that I did not make the matter plain to Mr. Acutt, and therefore insert his letter with pleasure. Mr. McDonagh, who is a senior student of Medicine, has kindly written the following, in the hope that Mr. Acutt may the more easily see the physiological and pathological application of what I said on this question, which, as Mr. Acutt rightly says, is one of great importance to the poor little captive Wagtails.—ED.].

SIR,—In reply to Mr. Acutt's queries *re* perches for Wagtails. These birds belong to the order "Passeriformes" or perching birds; consequently the foot is specially made for grasping; the musculature of the limb being of such a nature that when the bird goes to roost and squats on its perch, the toes clasp the perch. But it is not the bird's weight which closes the toes, this is performed by *voluntary* muscles called the flexors, and the opposite action of opening the toes by voluntary muscles likewise called extensors; and so to enable the grasping action to be as complete as possible the muscles work by the aid of long tendons which go to the several digits. Obviously one's object should be to provide perches which will suit this grasping action best, and certainly broad and flattened perches are not the best, as on such a perch the hind toe and fore toes cannot be properly approximated, and the bird must be less steady than it should be. Not only that, it causes the bird more strain to be obliged to grasp a large perch sufficiently hard for it to keep its balance, and therefore these broad flattened perches cause discomfort to the bird. Circular perches and thin perches are the best, providing as they do for the most perfect and easiest approximation of the digits. Put the thing to the test by trying to pull a clinging bird off a thick and then off a thin perch or wire,—we shall soon see the difference. Or watch a Wagtail in an aviary and see how it clings to the topmost and thinnest sloping twigs of a bush, or to the vertical wire netting. Could it do this with an upright broad and flattened perch? And if not, why not? Simply because to grasp the broad flattened perch, sufficiently hard to sustain its weight, would put too great a strain on the muscles and tendons. I don't see why Mr. Acutt should question the advisability of having perches with the bark on: surely this is simulating nature, a thing one tries to do as far as possible, knowing that branches of trees are used more than anything else by perching birds, and being rough are more easily grasped.

The advantages of using sand over blotting paper cannot be overrated. Sand of the proper thickness in the first place absorbs water excellently and soon dries, and considering the excrement of all insectivorous birds is more or less liquid and at the same time more liable to decompose quickly, sand, by absorbing this and mixing it up, thereby retards decomposition owing to its not being so exposed to the air. Furthermore the sand being rough and hard prevents those sores which are so liable to occur on birds' feet which are continually treading on sodden material. Blotting paper never properly dries and remains covered with the excrement, which soon gets contaminated with septic germs on exposure to the air, and as these septic germs are one of the principal causes of bird death in cages, and as this sodden surface is so liable to cause sores, it can be understood how easily these birds get infected by the germs getting into the sores, so to the blood and the rest of the body, setting up septicæmia of varying intensity.

One great point must be always borne in mind;—that is that birds kept in small cages must be below par compared with those in freedom, through not having the requisite amount of exercise, oxygen, etc., necessary for perfect health; consequently such birds have not that vital power of resistance to bacteria which they might otherwise possess.

Feeding vessels inside are a great mistake. They only add to the risk. Insectivorous birds are dirty and their excrement forms a very ready nidus for septic germs. So if the vessels are inside how can one help food, etc. getting contaminated, and as we know, septicæmia can be acquired by the ingesting of

septic material? As for dirt and food being thrown about outside the cage some convenience could easily be devised, while any extra dirt in the cage only exposes the bird to greater risk.
JAMES C. R. MCDONAGH.

THE SILVERBILL—BENGALESE CROSS.

SIR,—The whole of last summer was barren of breeding results in my aviary, owing to the disturbance of nests and destruction of broods effected by a pair of Red-headed Finches. I removed the offenders in the autumn, but imagined that the season was then too far advanced for any young to be reared—however there have been at least three broods since September, and four young birds have left the nest, the last as late as the 12th of December.

Sometime in October an interesting hybrid was reared—a cross between a Silverbill and a Bengalese. Only one young bird was hatched, and he (or she) is now in adult plumage. The mother is a "Fawn and White" Bengalese, but the young bird is in appearance something between a Silverbill and a "Chocolate" Bengalese," with more resemblance to the Silverbill. In fact it differs little from a Silverbill in plumage, except that it is rather darker—but it is more heavily built than a Silverbill, and approaches the Bengalese in shape. Another young one of the same parentage left the nest on the 12th of December and was found dead the next morning; apparently it was unable to regain the nest at night and perished from cold. In this case, again, only one was hatched. I am told by those who are well acquainted with the appearance of aviary-bred Silverbills in their nest feathers that this young bird was almost indistinguishable from a Silverbill of the same age.

Two young Double-banded Finches left the nest on the 24th of November, and, although apparently strong and healthy, are still (23rd Dec.) dependent on their parents for food.

H. R. FILLMER.

Editorial Notes.

DRIED "FLIES."—The following interesting cutting from the San Francisco *Call* has been kindly sent in by Dr. D'Evelyn :—

"INSECTS SOLD BY THE INDIANS AS FOOD FOR THE CAGED BIRDS.

> MONTEREY, Mexico, Nov. 1st.—Large quantities of dried flies are daily offered for sale in the city market of Monterey. They are sold in bulk, just as beans and peas. The dried flies are in constant demand and readily sell for 50 cents a pound. The flies are caught in immense quantities by the Indians on Lakes Texcoco, Xochimilpa, and the other Lakes of the Mexican Valley, and are shipped to all parts of the Republic, where they find ready customers in owners of caged birds.
>
> These Indians have an ingenious method of capturing immense swarms of these flies in a sort of net arrangement. The fly is found in such numbers and the natives have acquired so much skill in catching them that they derive a frugal income from that strange industry.
>
> It is said that the Mocking Bird and other varieties of the large birds, which the Mexican people are so fond of keeping in cages as decorations to their patios, eat these flies with a decided relish, while for Canary Birds they seem a very good food to vary with the seed of which that songster is so fond."

It will be noted that the Mexicans are more alive to the value of this article of bird food than we are, for they are not only content to give 6d. a pound more for it than we do, but they also use it for Canaries. Over here we are only just beginning to find out that Finches can and will rear their young with the help of preserved insectile forms.

THE PRICE OF YELLOW-BILLED CARDINALS:—A private correspondent tells me that he has lately obtained a pair from a dealer for 12/6, and that they have been offered at that price in more than one quarter this year.

MRS. ASKHAM'S CANARIES :—This lady writes that the 13 young birds, whose rearing without egg food was described on page 137 of this Vol. are all of them "well over their moult without having given an hour's anxiety." I mention this because they are exceptionally fine birds, and I have been lately told that only small and common ones can be brought up without egg. When I asked my informant to explain why and how the physiology of a bird should so materially alter along with a slight difference of carriage, or an extra half-inch of feathers, or less than a quarter of an ounce in weight, all brought about by purely artificial, *i.e*, arbitrary human selection, he was ominously silent.

BACTERIOLOGY versus RATS AND MICE IN THE AVIARY:—It has occasionally been suggested to me, and still more often has it been emphatically asserted in my absence, that bird keepers did not want a lot of "rubbishing science." What they wanted was something "practical" and "useful." One of our members at one time actually wrote me two or three letters, urging me to withdraw "The Story of Bird Death," on the grounds that he could not understand it and did not see the use of it, though an explanation of this may perhaps be found in what he has since told me—without doubt truthfully—*viz.* that he had never read any of it.

But that modern pathology is of infinitely more real use to the aviculturist at large than the vague guesswork of a past generation is becoming a recognised fact among the more intelligent members of our bird-keeping community. In short it is now seen that "rubbishing science" is more practical in its effects than the soothing syrup of the "Russ school."

From the letters of Drs. Wallace and Snell, and from my own remarks in this journal and elsewhere, it will have been gathered that the work undertaken purely as a labour of love by Dr. Clarke and myself, (in the first place by the former alone), at last meets with a substantial reward, inasmuch as its records will be a decisive answer to those, who in obedience to the modern trend of popular opinion on the question of tuberculosis will probably very shortly attempt to curb and contract our hobby, as being presumably dangerous to the public health. And if, through the publicity which fortunately has been lately given to the question, other investigators are led to examine the matter for themselves, our interests will be still more strongly safe-guarded in the future.

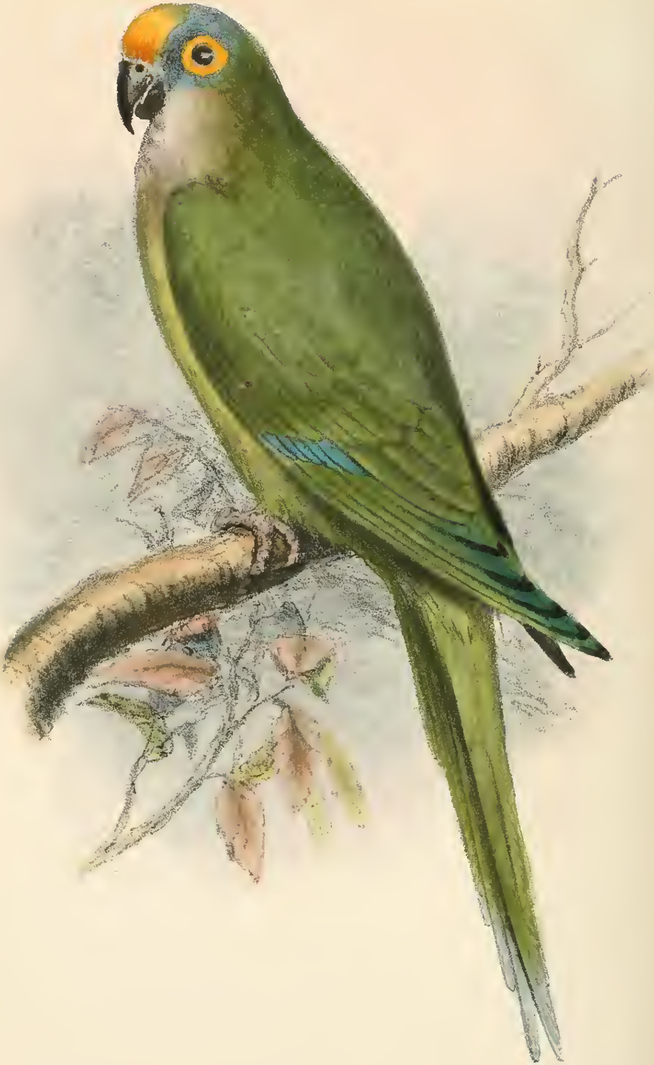
Another instance of the value of scientific research is to be found in the annals of a certain disease which attacks mice and rats. Dr. J. Danysz of Paris, who investigated it, found that while fatal under certain conditions to these animals, all others, including birds, were immune against it. He first isolated the bacillus during a spontaneous outbreak of disease among field mice, and found that to a limited extent the grey rat (*Mus decumanus*) was affected by it. He then endeavoured to increase the virulence of the bacillus by the process of passing the microbe a certain number of times from rat to rat. In this he was disappointed, for while he found the earlier cultures virulent enough to kill the animals in about a week, and the subsequent passage through two or three more rats resulting in a slightly increased virulence, causing death in a little shorter time, the continued passage of the same strain of bacilli through yet more rats always "resulted in a constantly decreasing virulence, so that finally no rats died at all." By careful attention however to the environment of the bacilli themselves while being cultivated, Dr. Danysz has been able to maintain his cultures for the past eight years in a state of constant high potency, just as Professor Klein, Dr. Clarke, and our Canary fanciers have succeeded in heightening the virulence of the avian septic bacillus by the use of egg.

The practical outcome of all this "rubbish" is that to-day for a few pence the bird fancier and aviarist can obtain sufficient bacilli in a culture tube to rid his bird-room or aviary of both rats and mice for a period of some months' duration. And he can do this with perfect safety to either birds, dogs, or cats, whether these should happen to eat either the inoculated crusts of bread or the bodies of the dead rodents. "In most of the small villages round Odessa it was observed that the rodents completely disappeared [after the use of the virus], and. . . . . several weeks after the operations had been carried out the Bacteriological Institute [of the 'great town of Odessa'] was able to procure only 14 rats alive and in good health, although it offered a reward of 15 Kopecks a head."

I hope to give further particulars in our next issue—especially with regard to the commercial and practical aspect of this question.

THE WILD CANARY :—According to *Cage Birds* of the 30th ult. four of these charming birds have quite recently been acquired by the Zoological Gardens. Those to whom the Canary in its original form is a stranger—and they are many—should take the opportunity of comparing these specimens with the various published descriptions of the species, including that in the Brit. Mus. Cat. Vol. XII.

W. Geo. Creswell.



C.L. Allport, del.

A S Huth, imp

GOLDEN CROWNED CONURE.

Conurus aureus.

From life.

The Golden-crowned Conure.

(*Conurus aureus*).

By W. Geo. Creswell, M.D., F.Z.S.

Parrots of any kind have always wielded a considerable amount of fascination over me. Each individual is a kind of lucky-bag; to be tautological — each individual has such an amount of individuality, that to see a Parrot, especially if it be to me a hitherto unkept species, is in my case to want it. Consequently at different times, of later years especially, I have bought, sold, and exchanged more than one of my hook-nosed friends. When therefore one murky afternoon in the first week of last October I espied, among a heterogeneous collection of dogs and fowls and other living beasts on the pavement outside a bird shop, two cages, each containing a pair of Parrakeets of sorts, I immediately alighted from my carriage—the humble 'bus—in order to pay my respects. Calling the proprietor outside, and pointing with my stick to one of these cages, "What are these?" said I. "Quaker Parrakeets" quoth he. "No, no, I mean *these*," (the others were Quakers), I returned, "what are they?" "Quaker Parrakeets," the man persisted. Thereupon with honied phrases, begotten of a natural amiability, I explained to the gentleman that the Quakers were old friends of mine, but that I would like to know what *these* were. "Oh! these?-er-er- these did you say Sir? Oh, they're—er —Miniature Parrots!"

"Ah! now that's better," said I, "and what country did they come from"? "West Africa" was the now ready reply. "How long have you had them"? "Over six months, and they're as tame as tame" did this ornithological authority inform me. By this time I was becoming really charmed and delighted. Here was a man, a dealer with great experience of men and manners, unconsciously testifying to the simple bucolic attributes which I have ever thought—rightly it would seem—to be my heritage from the country parsonage! And so not a word did I say which could give him any wrong impression of his new customer. I made no unkind insinuations to the effect that "West Africa" was merely current Dealerese for South America, or that birds with ruthlessly and freshly cut wings could hardly be expected to flutter madly round a box cage, and certainly were not likely to have been in his dingy den the time he averred. No, I just asked the price, and then, as though I had not heard his answer, softly made one bid of half a sovereign for the pair. "No? well half-a-guinea then—I'm in a hurry." With a look of pained surprise gently stealing over his face, and after a just perceptible pause, came the reply, "They're yours, Guv'nor." And so I brought away my first Conures, the Golden-Crowned, parting I hope from my new friend with mutual admiration and respect.

After keeping them in quarantine about a month on the table in my waiting room, where I am bound to confess they did not bear out my dealer friend's assurances as to their tameness, I brought them into the house to join company with the specially domesticated members of my Psittacid community. Here they developed fresh characters, or rather allowed full play to previously unshewn ones. Noisy they certainly were, but the noises were too interesting in their variety to be regarded as altogether unpleasant. In even the short time, as will be seen, that I kept them in close proximity to one set of human beings they became sufficiently tame and confiding to exhibit a good deal of what one may call their inner life. "Love birds" they unquestionably are—of the true Love in a Cottage type. For a long time at a stretch they would sit close together, alternately kissing and preening each other, uttering the while the most endearing little sounds, of which it is difficult to give any description, except perhaps that it was to their lowness of tone and variations of inflection alone they owed their charm: then suddenly moving slightly apart and using both beak and feet, they would indulge in a joyful game of romps, approaching a bout of Japanese Ju-jitsu in character, in which they displayed the most marvellous agility in maintaining their position without falling, passing and repassing each other, now on, now under the perch, and unceasingly talking their own language, which now was easily distinguishable from that used in the love making scene. Sometimes I was forcibly reminded of an old nursery saying of my childhood to the effect that "crying always comes after romping," for very often something or other would happen to spoil the pretty game. What was its precise nature, whether rather too hard a bite, or an unlucky scratch, or even just some jealousy at defeat, was not of course apparent to the mere human eye, but generally there would be a sudden assumption of a decidedly rampant attitude, accompanied by vicious digs at each others faces with the beak, and more or less stealthy attempts to grapple each other with a foot. Then one — generally the hen — would take refuge high up on the wires of the cage, and both would shout defiance in distinctly strident tones. A curious reversal of the relative attitude of the sexes could however always be seen if a single biscuit were placed in the cage. If the male got to it first, his wife always took it from him, and cleverly defeated any attempt on his part to recover it. After a time he seemed to have learnt his lesson, for without any comment he eventually always took his stand on these occasions under the perch, and thankfully picked up the crumbs. Wise husband!

A few days before I took them from the waiting room I pulled the stumps of their primaries and secondaries, and by the end of December their new wings had completely grown, the green and blue being much more vivid than in the older feathers of the other side. Judging from this I think it will not be found after their moult, but at present the entire colour, *i.e.* the green of the body, shews a decided metallic coppery tinge in some lights, probably only from structural wear and tear of the feathers and consequent prominence of their ground colour. In my opinion the slight relief afforded by the orange of the forehead and orbital rings gives these birds a very handsome appearance.

Wanting their cage for another Psittacid I rather reluctantly turned them out about the 3rd of last month (January) into the aviary on the lawn, which is open on all sides, and where in the company of a pair of Rosellas they are apparently very happy and comfortable. At any rate they can often be seen playing their game of romps on the hanging revolving perches in the centre.

Since according to Mr. Seth-Smith's useful and delightful book there is no record of their having bred in this country, it is my ambition to succeed in this direction next summer, by giving them an aviary to themselves, and to tame a young one. What a pleasant thing is castle building!

Out-of-the-way Cage Birds.

By Dr. E. Hopkinson, D.S.O.

Since I have been in West Africa I have had as pets one or two rather uncommon species,—uncommon that is as cage birds,—a short account of which may interest our readers.

One of the first of these was a Senegal Coucal ("Foolish Bird" or "Reed-bird" as they are called here) which my boys caught one day in the kitchen-hut, and which soon settled down to cage-life, thriving well (until his escape a month or six weeks later) in a good-sized packing-case cage. At first I fed him on live locusts, grasshoppers, and any other large insects which could be easily obtained; then I got him on to dead food, such as mice and bats, both of which he soon became very fond of, and before long he would eat almost anything in the shape of animal matter, such as raw or cooked meat, chicken-lights and other kitchen refuse. He got tame in a wonderfully short time, but in spite of that I can hardly give him a good character as a cage-bird, as his diet is likely to make him a smelly and unpleasant pet indoors, and his loose plumage is easily soiled and roughened, so that he soon loses the few good looks he may have originally possessed.

These birds, which belong to the family *Centropodinæ*, the Lark-heeled Cuckoos or Coucals, are extremely common in the Gambia; in fact one may say that wherever one may be or wherever one may look, a pair or more is sure to be in sight. They are all remarkably tame birds, having but little fear of man, of whose presence they hardly take any notice as they hop heavily about the bushes or among the long grass, searching for the insects and reptiles on which they feed. In colour they are chestnut above, with black head and tail, while their underparts are a dirty white. Their feathers are coarse and harsh-looking, giving them always a rather untidy appearance. The bill and feet are black, the latter strong and furnished with powerful claws, especially that on the hind toe, which is long and straight like a lark's (hence the name), and of great use in assisting them among the tangled grass they like to frequent. The iris is bright red, giving them an alert and rather fierce expression. In length they measure about sixteen inches, of which the tail forms nearly half. Their usual note is one of the commonest sounds of the evening and early part of the night, and can generally be heard on all sides about sunset and after, as one bird answers another, "wu-tu-tu-tu" repeated *ad libitum* with a gradually falling pitch, the performer attitudinising the while on his perch, his throat puffed out and collapsed alternately, his head bowed forward till his beak points to his toes, his tail bent downwards till parallel with his legs, and his whole attitude apparently one of stiff and grotesque discomfort. At other times they also utter a sort of cackle somewhat like the Bush-fowl's call. According to the Mandingoes the "Kandi-wutu," as they call this bird, kills and eats snakes, and what is more, they assure me that they never find one of their nests which does not contain a living but crippled snake, kept there to scare away intruders. This seems a tall story, especially as none of my informants have yet been able to show me a nest (although from the number of birds about, these must be quite common), to confirm or otherwise discredit his story; however, I am pretty certain in my own mind that they are probably correct about the snake-eating, that is they are no doubt just as fond of small snakes, as they are of lizards, which I have seen them catch. But the crippled snake is a myth which has, I expect, grown up from the fact that the birds may sometimes ornament their nests with a cast snake-slough: a Mandingo could easily evolve an even more marvellous tale from such a limited basis of fact.

I see Dr. Russ mentions these birds among the exotic Cuckoos which can be kept in captivity, although he remarks that they are more suitable for public than private collections. I cannot do better than conclude by quoting the advice as to food given by this Past-Master in things avicultural.

"The larger species of Exotic Cuckoos will take "chopped raw meat, but are particularly fond of live "food, such as large insects, mealworms, garden "worms, reptiles (lizards, frogs, etc.), young birds "(sparrows) and animals (mice), but they should "also be accustomed to some general food mixture, "together with Cockchafers, bread, and dried shrimps. "Although A. E. Brehm maintains that Jay-Cuckoos, "Coucals and Koels (*Coccystes*, *Centropus*, *and Eudy-* "*namis*) can be kept for a long time on chopped raw "meat only, this in my opinion would be absolute "cruelty, as these birds so kept must suffer, and "would be sure to die from such a diet. Again, any- "one who states that a Koel can be kept in good "health for a whole year solely on cooked meat and "fresh or dried berries or other fruit must be in error, "or is wilfully making a false statement; all Cuckoos, "if they are to be kept in good condition, need correct "feeding, that is an animal diet with occasional living "insects, etc., the hard parts of which aid their di- "gestion and are essential to good health."

Another bird I had about the same time was a young Red-billed Hornbill (*Lophoceros erythrorhynchus*). This bird, the smallest of its kind in this country, is a black, white, and grey bird with a red bill. It is usually seen in pairs or small parties frequenting fairly wooded districts, but often visiting the fields and cleared ground for ground-nuts and roots, on which it chiefly feeds. On the ground they advance by a series of clumsy hops, but among the branches they are remarkably active in spite of their rather ungainly appearance and long awkward-looking bill, though when they first alight on a tree after flight the latter seems to almost overbalance them, at any rate they always sway forward as they settle, and apparently only just save themselves from a bad fall by a sudden upward jerk of the tail. My bird was taken out of its nest and brought to me when nearly fledged. It accompanied me on my wanderings for quite a long time, loose about the hut with a clipped wing during the day, but shut up in a box during the nights and on the journeys. At first the boys fed it on chewed ground-nuts, but as it grew older it began to eat them without any outside assistance. These ground-nuts (their natural food for at least two months of the year), are always preferred to anything else, but if they were not forthcoming it would take boiled rice, soaked biscuit, or the native porridge made of pounded millet. It would also probably have eaten most kinds of fruit, and would I am sure have been the better for some such addition to its diet; in fact its death was, I think, hastened by intestinal trouble. Unfortunately fruit, except for an occasional orange, a fruit this bird never seemed to understand, is unobtainable in the bush. I also had quite recently an adult of our other common species, the "Kilah-kong" of the Mandingoes, (*L. nasutus*), which had been slightly winged by a shot. Although his injury was trifling the bird refused to feed and soon went the way of all flesh. This species is larger than the preceding, is a mottled brown in colour, and has a large brown beak with light yellow markings and blotches on it.

Soon after my arrival in October last I caught two of the common Bulbuls of Bathurst (*Pyonotus barbatus*), the Dusky Bulbul of the Zoological Society's list, in which specimens of this bird are noted as having lived in the Gardens at various times. Of these I can happily still speak in the present tense, for they have done remarkably well in captivity, (to which they settled down within a few days), and have been easily catered for in the matter of diet, since all they require is an orange or banana apiece daily. I caught them to ascertain if they would live in captivity, because I always thought that their feeding at least ought to offer no difficulties, as when wild they appear to be entirely frugivorous, feeding chiefly on the various species of wild fig of the country, and in this supposition I was not disappointed. But I was surprised to find how quickly they became reconciled to cage life and how well they throve. I put them into a box-cage about two feet cube in measurement; three days after his capture the cock (I think I have a true pair) began to sing, not, I must own, a very elaborate strain, but two or three whistled notes we all know so well out here, and which the Bathurst boys translate as "Sixpence a day, sixpence a day." As I said above their food is bananas and oranges, on which they are still thriving under the care of a friend in Bathurst, where I have left them during my absence in the Protectorate. There seems to be no reason why they should not continue to flourish, as their plumage is perfect,—not a feather out of place—they bathe regularly and in every way appear to be in the best of health, all evidence that the food, though it sounds rather monotonous, is being assimilated and is agreeing well with them. I at first repeatedly tried them with various kinds of insects and also with the native fruits one sees the wild birds feeding on, but at neither of these would my birds even look,—their refusal of the latter was, I think, because one can only get those which grow on the lower branches of the trees, and which probably never ripen sufficiently to please their taste. These Bulbuls, common all over the country,—in Bathurst, round the native towns and in the depths of the bush—are dull-plumaged birds rather smaller than the Red-vented Bulbul of the East, and are dusky brown all over unrelieved by any dash of brighter colour, with slightly crested darker brown heads and lighter under parts. They can therefore hardly pass as beautiful cage-birds, but are interesting for their lively ways, captivity not appearing to lessen one whit their wild-life vigour and activity. If these birds are still alive, or if I can obtain others when my time is nearly up, I hope to bring some home with me.

When I first came to this country one of my pets was a Crow (*Corvus scapulatus*), a bird about the size of the Carrion Crow, but black and white like a Magpie. He, like all Crows, did well in confinement, and went home with me, where he still survives (now four years old) in the Zoo. With him also went one of our large storks, the Marabouts, which make amusing pets to have loose about one's compound, and soon get so tame that they can be allowed the full use of their wings, as although they often go far afield during the day, they always return at nightfall to their home. This particular bird had a most eventful early life, for he was presented to us away in the bush, and had to be carried each marching day for a month in the arms of a small boy; he also at first refused to eat anything but fish, which was only rarely forthcoming, so that his early meals were remarkable for their irregularity and scantiness, in fact he ought almost to hold the record for fasting birds, as I hardly like to say now how long we had to make a tin of sardines last him. However, he did survive the perils of his infancy and grew up to full adult life, when he became quite a feature of our camp. By then he was anything but fastidious as to food, for he would eat anything he was given or could steal,—kitchen-refuse, mice, lizards and snakes, as well as more civilized luxuries such as bread and biscuits; chicken or mutton bones he was very fond of also, and I have often seen him swallow with evident relish such indigestible morsels as the heads and feet of fowls and partridges. However, a Marabout really has no place here, as he can scarcely be included in the category of cage-birds, and the same applies to the other larger feathered pets I have had out here—Spurwing Geese, Bush-fowl, and Crown-birds, all of which do well in captivity if properly looked after. Two of the last named are just now gracing the Governor's compound in Bathurst, and as they have satisfactorily got over all their infantile troubles I hope they will live to follow their predecessors of other species to the Zoo.

The Story of Bird-Death.

By W. Geo. Creswell, M.D., L.R.C.P., F.Z.S. etc.

(Continued from page 183).

THE TREATMENT OF SEPTICÆMIA.

The success attaching to the treatment of the just quoted cases of septic poisoning may probably raise false hopes in the minds of my readers as to the success they may expect in all and sundry cases. But they must bear in mind that which I have frequently alluded to in the course of these pages,—the constant variability both of the degree of virulence on the part of the bacilli, and of the quality of reaction on the part of the patient. A man, to use a familiar example, scratches his finger. Instead of healing straight away as it would do if he took means to prevent any entrance of septic germs, it becomes irritable and sore, and a small area surrounding the original scratch becomes red, swollen and throbbing. If the germs have been of only ordinary strength, and the man is in robust health, a timely cleansing of the sore, and the adoption of means to prevent further septic infection, combined with the avoidance of any lowering systemic measures, result in a speedy cure, before there has been any material invasion of the general blood stream. A butcher, with vital powers lowered by steady alcoholism, nicks his hand, and inoculates himself with bacteria from a piece of meat which has been probably several times in and out of the ice chamber. A diffuse septic cellulitis of the whole hand and arm is soon the result; he comes to hospital, and after weeks of the most careful treatment is lucky if he retains a serviceable limb. A surgeon, fatigued by late hours, hard work, and mental worries, makes a *post mortem* examination of a virulent septic case, absorbs a few germs through a crack in his skin or a slight flaw in the corner of his finger nail, and is fortunate if he has time to make his will before he is measured for his coffin. Or a benevolent publican's wife, filled with the profoundest pity for the wives and children of her husband's frozen out customers of the labouring class, buys meat and vegetables of the soundest quality and proceeds to manufacture a copperful of really good and sustaining soup to be given away during the next few days. The recipients of the first instalment of the bounty spread the welcome news abroad, and are followed the next day by others wishful to join in all the good luck that is going. But while the first relay has nothing but gratitude to express, those who come later cannot say that "good digestion has waited upon appetite," for a few hours after emptying their pannikins they are one and all seized with unmistakeable symptoms of acute septic enteritis; the medical men of the immediate neighbourhood are occupied day and night; and the press afterwards records the fact that out of about a hundred sufferers twenty or thirty have already succumbed, and that the illness of the rest varies from the slightest possible degree up to a condition where life actually hangs in the balance. An expert in Hygiene, *i.e.* the local Medical Officer of Health, comes on the scene, and the result of his scientific investigation is that he testifies at the inquest that, while the soup when freshly made was perfectly wholesome, the presence of a defectively trapped drain in the kitchen had resulted in such contamination of it while standing in the copper, that, although tasting and smelling perfectly sweet, it yet contained multitudes of airborne septic bacilli, which had resulted in this lamentable epidemic of "ptomaine poisoning."*

From the previously given description of the pathology of the disease, and from the above range of actual cases, exemplifying as they do both the various channels of infection and the differing degrees of individual results, we see the futility of expecting what I have been asked for more than once—a "simple cure" for Septicæmia. Such a cure would mean something which would not only directly kill the entire number of bacilli which in countless myriads are permeating the blood and tissues of the bird, but would also necessarily have the power of simultaneously so combining with the chemical poisons generated by these bacilli, as to form an inert and harmless substance in such a solution that it might be excreted by the kidney and other organs without detriment to them. But when we come to the consideration of the various chemical substances with the power of destroying even the bacilli—for that they have any neutralizing influence on the poisons thrown out by the bacilli is very doubtful—we shall soon see that a "cure," sufficiently strong or sufficiently large to effect its object in the body of one bird by permeating the whole of its blood and tissues, would be in the one case strong enough to kill all the birds in the London shops, or in the other so great in amount that it would require a Zooful of birds to swallow the solution containing it.

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* *Ptomaines* are the toxins thrown out by septic bacilli. They are very like some of the known alkaloids derived from the higher vegetables.

Extensive and elaborate experiments in this direction have been carried out by Dr. Clarke, and, as my own have been much too limited to be of any value, I shall draw upon his results as given in the lecture from which I have more than once quoted. Without going into particulars of the technique of these experiments, for they would take up many of our pages, I will briefly say that in addition to the fruitless use of various drugs on sick birds in ordinary medicinal doses, they were directed to the elucidation of what precise percentage of the different chemicals was needed to prevent the growth of septic bacteria in a given weight of dried hard boiled egg *plus* a given amount of boiled water, treated at a temperature of 100° Fahrenheit. Some of the results were rather surprising, substances generally supposed to be very powerful having but very little effect. For instance, carbolic acid was found to be comparatively feeble, since no less than 10 per cent. was required to ensure sterility. "On the other hand, so little as 1 per cent. "of boric acid . . . . may be relied on to entirely "prevent the growth of bacilli in egg . . . . Sanitas, "which has been vaunted as a cure for the disease in "such ridiculous quantities as two or three drops to a "bottle of drinking water, has very little effect on "septic organisms—they grew freely when it was "added in quantities up to 25 per cent., no less than "a quarter of the whole mixture being pure Sanitas; "and even with 30 per cent. the growth of bacteria "was not completely arrested."

The most effective germicides were of course the biniodide and the perchloride of mercury, the latter of which is known as Corrosive Sublimate. Of either of these $\frac{1}{5}$ per cent. sufficed to prevent all growth of bacilli; Sulphate of Copper came next with $\frac{1}{4}$ per cent.; Calomel (subchloride of mercury) followed with $\frac{3}{4}$ per cent; while Jeyes' Fluid and Izal required to be used in the proportions of 15 to 20 per cent. and 20 to 25 per cent. respectively. Now let those who clamour for the "simple cure," (as has been done even in the pages of *Bird Notes*), just imagine the result of thoroughly disinfecting the whole of a bird's tissues and fluids with $\frac{1}{5}$ per cent., *i.e.* $\frac{1}{500}$ of its weight, of corrosive sublimate, when I tell them that a man, weighing — say 10 stone, dare not put into even his stomach alone the small amount of 3 grains, *i.e.* $\frac{1}{358,400}$ of his weight, and that his maximum safe medicinal dose is laid down as $\frac{1}{8}$ of a grain, or $\frac{1}{8,611,600}$ of his weight! Take again the case of boric acid. To thoroughly impregnate a pigeon weighing ten ounces with 1 per cent. of his weight of this chemical would require $\frac{1}{10}$ of an ounce of the powder. And since this is only soluble in the proportion of 1 part in 25 of water, it follows that we should require to soak the tissues of the unfortunate bird all at once with $2\frac{1}{2}$ fluid ounces of the solution, one fourth of his entire weight! Let us try to realize our 10 stone man having a couple or so of bucketfuls of saturated solution of boric acid, or of pure Jeyes' Fluid or Izal, pumped into him under hydraulic pressure!!—for that would be the only method conceiveable whereby all the nooks and crannies of his system could be reached. The whole thing is too ridiculous, though even now the real irony of the situation is not fully revealed. We only reach that when we find that those who talk about "remedies" and "simple cures," without any conception of the considerations involved, are the very people who lie in wait to contradict and criticize, whenever a medical man tries to help them out of the stores of his professional knowledge!

Leaving then this impossible line of treatment, the only one present to the minds of those who are so willing to instruct medical men on medical matters, we will now discuss one which *is* possible, and which has proved eminently successful in certain allied conditions in man and other mammals. I mean the treatment by serums. It will be remembered that on several occasions I have spoken of the leucocytes or white corpuscles of the blood as "devouring" the bacilli after having previously killed them and neutralised their toxins with the chemical alexines or antitoxins which the former had thrown out for the purpose, while at the same time the normal number of the white corpuscles is relatively much increased, with the object of successfully coping with the invading force. The thoughtful reader then at once grasped the idea that these processes constitute Nature's own cure, and that it was in this direction alone that there existed the barest chance—if any—of the "simple cure." It struck him immediately that if it could be done the obvious remedy was to increase the total quantity of antitoxins in the blood of the affected bird. And he was right—so far indeed as the principle went. Whether however it is practicable to apply this principle to birds, we shall be better able to determine later on. In the meantime we will see as an illustration how it is carried out in the case of some of the diseases attacking the higher animals, in which it is applied.

If we turn back to one of the earlier chapters where I discuss the question of immunities, we shall find that as a general rule one attack of an infective disease confers immunity against another attack for a longer or shorter period of time, equally whether the attack was a mild or a virulent one. The explanation lies—at any rate in some diseases—in the fact that after the recently augmented blood antitoxins have gained their victory, there remains over and above a sufficient quantity of them to confer safety against any fresh parties of bacilli that may obtain an entrance. It is obvious, therefore, that what his blood serum can do for the host himself, it can do for others if introduced into their systems. And whether we select for our purpose an animal, whose species is known to be not very susceptible to the disease for the time being under treatment, and inoculate it with virus of ordinary power, or on the other hand if by one of the various means at our disposal we attenuate or weaken some virus and use it on an animal which is susceptible, it is equally obvious that in either case the subject selected will have only a mild attack. That is to say, his sanguineous antitoxins will gain an easy victory over the toxins of the disease, and will afterwards remain in pronounced excess in the serum of his blood. If now the animal is bled to a moderate amount, and the serum of the abstracted blood is first separated from the corpuscles, and then filtered through porcelain to make sure that no bacilli still remain in it, we have at once the means of reinforcing the blood antitoxins of another animal—for instance, a man—suffering in the ordinary way from the same disease. This is effected by injecting the curative and protective serum under the skin in quantities proportionate not so much to the size of the animal being treated, as to the severity of his attack. It also logically follows, and is so found in practice, that if the serum be injected into a healthy, but at the same time susceptible individual, he at once acquires an immunity against the disease for as long as the added antitoxins remain unchanged, and can with perfect safety expose himself freely to the chances of infection.

The phenomenal success that has attended this practical outcome of what has been called "rubbishing science" in those diseases in which its adoption has become established by reason of the overcoming of all attendant technical difficulties, *e.g.* Diphtheria, and the almost complete success already attained to in other diseases where the difficulties are at present only in process of being overcome, make it certain that a like happy result would attend its extension to the Septicæmia of our captive and domesticated birds. And this certainty is emphasized by the fact that Pasteur has already met with complete success in the serum treatment of Fowl Cholera. But seeing that the systematic production of the curative and protective serums is attended with such pecuniary expense that it can only be undertaken where there is a reasonable prospect of a steady, if even limited, market for them, it follows that no bacteriologist will take the trouble to prepare a serum containing the antitoxins of Avian Septicæmia, until the owners of birds, *i.e.* the readers of the weekly and monthly press, have learnt to recognise the disease in its various forms. And this unfortunately they will never do so long as the accepted "pastors and masters" of aviculture (being themselves unable to recognise the disease), are permitted to play the " go as you please " game, and to inform them that it is tuberculosis, scrofula, decline, gout," liver disease," enteric fever, diphtheria, apoplexy, cancer, or whatever else their fancy for the time being dictates, *and moreover that insectivorous birds never contract it.* They will never be in a position to safeguard their own interests in medical matters affecting their birds so long as they are misled by laymen in every possible way, while anything like the real truth as to the laws of Nature affecting health and disease is met with either active hostility or else studiously ignored. How much longer shall we bury our heads in the sand?

Seeing therefore that treatment with chemicals—even those which have the most powerful effect on the bacilli—is but a chimerical fancy born of fevered longings, and that we are debarred from the adoption of Nature's own cure, the real "simple cure," by the obscurantism of the very persons who would fain be regarded as inspired authorities on both physiology and pathology, we are perforce driven to fall back as our sole refuge upon that which ought to be only an adjunct to rational treatment. I mean Prevention. I shall be met, no doubt, with the old proverb to the effect that this is better than cure. True enough; but, as we find in human diseases, diphtheria for instance once more, it is good to have the cure at hand, when in spite of all attempts at prevention, we have nevertheless fallen victims to the infection.

Attentive readers of the foregoing pages, and of my little book "The Hygiene of Bird Keeping" will have gathered many hints, and indeed many plainly expressed warnings, bearing upon prevention, but there are a few points which it will be well to mention, even if they are not altogether new.

All newly bought birds should be placed in quarantine for at least three weeks in non-infected cages: *strict* cleanliness should be practised: paper of any sort avoided as a covering for cage floors, a thick layer of sand being used instead and frequently changed: food and drinking water placed outside the cage: moist food eschewed as much as possible, especially in hot or muggy weather: the cages should be when possible of the open all round variety and not of the box pattern: any birds appearing thick and mopey, or breathing hard, should be at once removed from the society of other birds: baths supplied regularly, outside the cage by preference: egg food should be avoided, and care taken to prevent any kind of bird food from being fouled by mice. Overcrowding both in cages and aviaries should be tabooed, and in this connection I would specially point out that one square foot of ground space to each bird in an aviary is not sufficient, for reasons which I have elsewhere fully explained.

The disinfection of cages which have contained birds affected with septic disease, deserves a word to itself. To wash them in soap and water, to fumigate them with sulphur, to rinse them with a gallon of water to which an ounce or two of some disinfectant has been added, to lime wash them, and then to expose them to the open air for even twenty months is just so much waste of time, though to be sure my readers do not need to be told this while the earlier part of this chapter is still fresh in their minds. A cage is only really safe when it has been either boiled or burnt, and personally the latter of these is the only course I should pursue.

In conclusion:—being as it were "behind the scenes," by reason of my experience as a post mortem examiner adopting modern methods of investigation, I am strongly of opinion that the shops of the dealers should be placed under some kind of competent and regular inspection. It would be to their great advantage in the long run, because, to sell as many birds as they do now, they would then need to buy fewer from abroad; or else if they continued to import at their present rate, they would be able to sell more of their wares than they can under existing circumstances. Even those of us who are indifferent to waste of life are keenly alive to waste of money, and I personally know of scores of amateurs who have discontinued the keeping of wild birds solely because the majority of their purchases came to them from the dealers in a diseased condition. To them it was but too truly the Story of Bird Death.

My Aviaries.

By Mrs. Bromet.

As I have kept birds for some years, both British and Foreign, it may interest some of our members to hear about my aviaries and birds.

I have two aviaries built against a brick wall facing west: the inner portion of the larger aviary is 18 feet long, 8 feet wide, and 7 feet high at the eaves. It is a wooden structure with a span roof and entire glass front (wired outside and protected from the glare of the sun by green Venetian blinds), folding doors at the south end, half glass, half wood, so that I can open half or fold both back against the wall. In summer, from June to the end of September, these doors are always open, thus giving the birds free access into an outer flight 27 feet long by 8 feet wide and 7 feet high, covered with ½ inch wire netting. The inner portion of the aviary has a concrete floor, and there is a fountain with a basin 3 inches deep; the overflow from this runs down a small concrete gutter into a ditch in the outer flight.

At the north end of the aviary is a small brick house fitted with stove and boiler to heat the water pipes; these I can regulate, either having two or four on according to the weather; the temperature is never lower than 60°. The fountain and gutter are brushed out every day. On the window is a thin iron bar to hang the seed tins on; the aviary is also fitted with electric light for use in foggy weather. The concrete floor is covered with peat moss and river sand, and is raked over daily; there is always a good supply of lime grit, cuttle fish bone, and rock salt. The flight is planted with small spruce and box trees, large ferns, reeds, primroses, etc.; the back is boarded against the wall and has a narrow shelf the whole length about 2 feet from the top, to which can be nailed branches, nest, boxes, etc. At the end is a double door of wood and wire which opens into a smaller aviary 10 feet long, 5 feet wide and 7 feet high. This aviary is boarded on the north, the west and south are half glass and half wood; the floor is covered with ashes, and there is plenty of cover provided for the birds—branches, nest boxes, and hay; 2 swing perches, shelf for seed tins and a large bath. In this part I have two Whydahs, one cock Orange Weaver (these are in colour and lovely plumage), one Red-billed hen Weaver, two Green Singing Finches, one Goldfinch, one Bullfinch, one Siskin, a pair of Greenfinches and a Linnet. I have had the Linnet over four years, and he sings beautifully.

For food I give white and brown millet, spray millet, canary, a little hemp, meal worms, oranges, apples, grapes, etc., Century Food No. 1, a mixture of sweet biscuits, one hard boiled egg, and ants' eggs daily when I do not give the Century Food. Fresh sods every week, and in summer all the different kinds of grasses. The aviary is painted white inside and is fitted up with nest boxes, German cages, and cocoanut husks. I have small box trees in pots, one large swing perch, and spruce branches fitted into blocks of wood.

In the heated aviary I have the following birds, all in perfect plumage and very healthy:—1 Cock Chinese Quail; 2 Zosterops, 1904; 2 Green Avadavats; 2 Common Avadavats; 1 Grey Waxbill, 1903; 2 Zebra Finches, 1903; 2 Nutmeg Birds, 1903; 2 Bronze Mannikins; 1 Indigo Finch; 2 Pekin Robins; 2 Gouldian Finches (hen red face, cock black face); 1 St. Helena Waxbill; 2 Orange-cheeked Waxbills; 2 Long-tailed Grass Finches; 1 hen Cordon Bleu; 1 Bengalese; 1 Himalayan Black Robin; 1 Green Malabar Fruit-sucker; 3 Rufous-tailed Finches: 1 hen Blue Robin.

My pair of Zebra Finches reared over 14 young ones last year, this year between 20 and 30, and they are still nesting. My Long-tailed Grass Finches have had eggs twice, but have not hatched any. My Blue Robins had five eggs, but they were unfertile; the birds were in very bad condition when I got them, but after moulting this year they were in lovely plumage, and I was hoping for better luck next year when I found the cock bird dead ten days ago. I think he must have had a fit. The Rufous-tailed Finches also built, but the hen was egg bound, and though I managed to save her they have not built since; the Red-billed Weavers built any amount of nests, and the hen was sitting on four eggs in the outer flight, but I found the eggs half eaten. The Gouldians have shown no signs of nesting. The hen was a young one when I bought her last year, and as she is now in adult plumage and both seem in the pink of condition I hope to be more fortunate next year. My Black Robin, Fruit-sucker, and Zosterops are very tame. All the smaller birds retire into their nest boxes between 4.30 and 5 p.m. The boxes are filled with hay, and the birds add a lining of feathers. In winter on nice bright days I let them all out into the flight for a short time, and they all seem to thoroughly enjoy it.

Review.

"*I go a-walking*." This rather odd little work, which is appearing in sixpenny parts, is stated to be "Compiled from 'British Birds and their Haunts' by the Rev. C. A. Johns, B.A., F.L.S., and other works, illustrated from photographs by Charles Reid Wishaw." Three parts have appeared—the first taking us "through the country lanes," the second "through the meadows," and the third "by stream and lake"—further parts are promised in the spring. It appears to be a collection of process blocks from original photographs, with accompanying letterpress which does not claim to be original. The photographs are of a high order of merit, and the book—slight as it is—is a very charming one. We especially like the photographs of "Young Lapwings in Nest," "Stonechats," "Heron," and "Wild Ducks and Young."

The parts are sixpence each, and are published by T. N. Foulis of Edinburgh and London.

Post Mortem Reports.

(*Vide Rules*).

NIGHTINGALE. (Mr. True). Very emaciated: had suffered for a long time from congestion of liver and other abdominal organs. The epileptiform attacks noticed towards the last are not an infrequent accompaniment of the later stage in such conditions.

WREN. (Mr. True). Unlike the Nightingale this was plump in flesh, having been ill only a short time. Death resulted from pneumo-enteritis, *i.e.* a general septic condition manifesting itself more particularly in acute pneumonia and inflammation of the intestines.

LIZARD CANARY. (Mr. Halliday). This bird's liver was in a state of commencing fatty degeneration, but the immediate cause of death was pneumonia of the right lung.

PECTORALIS FINCH. (Mr. Howe). Fatty degeneration of the liver of some standing.

Letters to the Editor.

"TUBERCULOSIS" IN BIRDS.

SIR,—The articles on this subject which have been published in *Bird Notes* have been of such vital importance to any one interested in Bird culture, that it was inevitable a correspondence should follow.

I personally however can hardly understand how any one can be found to differ from the results of the researches of Dr. Clarke and yourself, since to my mind the articles are convincing enough to any man blessed with the ordinary amount of common sense. They have proved conclusively that a common disease which was never before distinguished from Tuberculosis is in reality Septicæmia.

The thanks of the whole "Bird World" are due to you, Sir, and your colleague for your arduous and great work.

THOS. SALT, M.R.C.S., L.R.C.P.

REARING BIRDS BY HAND.

SIR,—I shall be much obliged if some reader of *Bird Notes* will kindly tell me how to bring up by hand the following birds: Bullfinches, Tits, and Reed Warblers.

E. WARREN VERNON.

[This was referred to Dr. Greene, who kindly writes as follows.—ED.]

SIR,—In answer to the above query, young Bullfinches can be readily reared on some of Spratt's puppy biscuits sufficiently moistened with cold milk or water to make it crumbly. This can be picked up in a small pair of tweezers and held across the young bird's mouth when it gapes. It will then help itself as it would from its parent's mouth. Enough should be given to make the crop comfortably full. Feeding must be repeated every half-hour from dawn to dusk, and if the food can be slightly warmed so much the better. This procedure should be continued till the Bullfinches show a disposition to feed themselves, when hemp, canary and rape seed should also be placed at their disposal, the first to be slightly crushed, and the other two to be soaked in cold water till quite soft, when they must be strained and wiped in a cloth to keep them from sticking together.

Tits and Reed Warblers require different treatment. Ants' eggs make the best food for them. They must be quite free from rubbish, be taken up in the tweezers a few at a time and put well down into the throat of the young birds, just as their parents would do with their bills, (differing much in this respect from the finches). They also require to be fed much oftener than the latter, every ten or fifteen minutes at the outside, and several times a day the helping of ants' eggs should be dipped in water, as the live insects with which their parents would have supplied them contain a good deal of of moisture and the ants' eggs of course are very dry. Any small insects that can be found are good for these birds, but should be killed before they are given them. This can be done by pinching their heads with the tweezers. Ants' eggs will form the staple food when they are able to feed themselves, but they will also take a little puppy biscuit softened in milk or water, or a little bread and milk, though it is apt to make the cage rather dirty, for which reason the ants' eggs are preferable. The Tits will also eat hemp and sunflower seeds and pick at a bit of suet. W. T. GREENE.

THE CORRECT SHAPE FOR PERCHES.

SIR,—Please convey to Mr. McDonagh my thanks for his paper, though I do not follow him with his circular thin perches, which are continually being condemned. I want to see what other members have to say. I take this opportunity of thanking you for your post mortem notes, and to state that as two thirds of my birds have died this last year without egg, this year I intend to use desiccated yolk of egg, and note the result.

JOHN ACUTT.

[Mr. McDonagh was perhaps not very clear in expressing his meaning as to "thin" perches. Like Mr. Acutt and myself he believes in perches of various sizes—that I know for a fact; he used the word "thin" in contradistinction to the *broad flattened* perch, which is unlike anything in nature to which the birds' structure has been adapted.

With regard to the egg question and the mortality in Mr. Acutt's bird room. Out of five birds which I have received to examine for him during the past year I find, on reference to my reports, that four died of pneumonia, and one of general congestion of the organs of digestion. Pneumonia is an infectious disease and has been very rife this year among both egg-fed and non-egg-fed birds, as I have repeatedly had occasion to note. Congestion of the liver etc. is a disease which comes on very slowly, and is then the result of overtaxation of the digestive powers by too much, or else too rich, food. Leaving out of the question whether the last bird (a Jay) had previously to this year been fed on egg, Mr. Acutt cannot seriously imagine that I have ever promised that abstention from egg meant either immortality to birds, or freedom on their part from any disease whatever. Teetotallers die as well as drinkers: statistics shew however that their *average duration of life* is longer than that of the others. That is what I claim for non-egg-fed birds. But I hope we can be good friends even if we differ in opinion.—ED.].

Editorial Notes.

BACTERIOLOGY versus RATS AND MICE IN THE AVIARY:—Following up my remarks of last month on this subject,—tubes, containing a suitable nutrient medium, having been inoculated with the micro-organisms of this particular disease, are placed in an incubator for a certain time, at the end of which the colony of new bacteria, developed from the original inoculation, is seen as a thin film on the surface of the medium.

When desired for use, a little salt and water, (prepared as per directions issued with each package), is shaken up in the tube. This washes the bacteria off the surface of the jelly without injuring them, and holds them in suspension, thus giving us a fluid with which we can inoculate pieces of dry bread. These are laid in the runs and haunts of the rodents, the food which they steal in an ordinary way having been carefully removed from their reach. The virus having been ingested sets up the disease, which is fatal in from 7 to 14 days, and which when once established spreads from one animal to another, largely on account of their cannibalistic propensities.

Usually if a rat or mouse dies in its haunt and its body is overlooked by its fellows, a permeating stench is the result: this is said not to happen in this case, for the diseased animals come out into the open to die, and so can be picked up and burnt if desired.

The virus, which is known commercially as the "Liverpool Virus," is prepared in the Bacteriological Laboratories attached to the University of Liverpool, and can be obtained through any druggist.

BIRDS AS SURGEONS.—Would that all popular fallacies could be nipped in the bud as effectively as has been done by the able Editor of *The Country Side* with respect to this subject! From his issue of January 13th I quote the following:—"A little while ago a paragraph headed 'A Partridge's Sagacity' appeared in a provincial paper, and was copied into other journals. 'The bird,' the account said, 'had hurt its leg and had covered the wound with a mass of feathers, probably taken from its own breast, carefully laying them on in such a way that the soft fluffy portions rested on the injured part and the stiff quills pointed outwards.' We have been fortunate enough to obtain a photograph of this bird, which was shot at Osborne, near Selborne; and as anyone can see, the supposed example of a bird's sagacity in rendering 'first aid' to itself is merely the result of the body feathers sticking by their outer tips to the wound every time the partridge squatted to rest the injured limb. Drying blood is almost as sticky as birdlime, and dried blood holds like glue; so, of course, some feathers were drawn out every time the bird rose from a squatting position, at the same time probably causing the wound to bleed afresh, so that more feathers would be taken at the next halt."

In an editorial note he speaks of the above as a good illustration of the way in which we are apt to acquire false notions, and deprecates such "jumping to conclusions" as tending to imbue thousands of readers with wrong ideas. "It is the circulation of tales like this which makes it so difficult for the average reader to get a proper understanding of nature." In this I heartily agree with Mr. E. Kay Robinson.

IS EGG NEEDFUL?—My colleague, Mr. S. M. Towsend, tells me that none of his birds have had any for three years. In spite of this he seems to shew the same specimens again and again, without needing to create a corner in the bird market to maintain his position.

W. Geo. Creswell.

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The Foreign Bird Club.

NOTICES TO MEMBERS.

By the generosity of our esteemed member, Mr. C. Castle-Sloane, F.Z.S., we are enabled to start our new Volume with a Coloured Plate. As this plate is a gift to the Magazine, coloured copies have been issued to Associates as well as to Members.

Four other plates are about to be prepared for this Volume, and the Honorary Editorial Secretary will be glad to receive suggestions from Members and Associates as to what subjects should be chosen for them. It is intended to issne (to Members) coloured plates in alternate numbers this year, Associates being supplied with prints from the same lithographs, but uncoloured.

The Magazine Committee intend to make some considerable alterations in the Magazine, and it is hoped that such illustrations as are being prepared for the April number will become a regular feature of the Magazine.

At a Special Meeting of the Council, held by kind permission of Lord Wrottesley, at his house in London, on March 11th, Mr. Fillmer tendered his resignation as Honorary Editorial Secretary, and I was appointed in his place. It is probably known to most of our Members and Associates that the Foreign Bird Club owes its existence to Mr. Fillmer, and that it is principally due to his ability and energy that the Club has attained its present position.

I am sure I express the opinion of all the Members of the Council when I say that as long as the Foreign Bird Club is in existence it will owe a lasting debt of gratitude to Mr. Fillmer.

The Club is also indebted to Mr. Pengelley for some useful but unobtrusive work done by him, as Assistant Secretary, during the latter months of Mr. Fillmer's tenure of office.

I particularly wish it to be known that the delay in the issue of the February number of "BIRD NOTES" was in no way due to the late Hon. Editorial Secretary, but that it was my fault. The plate of the beautiful Three-coloured Tanager was my favourite of the four done for Vol. III, and for that reason I kept it to the last. The work of the ordinary colourists that are available being generally unsatisfactory, I had determined to do the colouring myself, and although I had allotted a very considerable time for the work, I had underestimated it, and, despite devoting the whole of my time to it, I failed to get it done in time. I beg, therefore, to express my regret for the delay, to all subscribers.

Considerable delay has occurred in getting out the March number, for which I cannot hold myself entirely responsible, as my appointment only began on March 11th, and there was at that time very little matter in hand. Several illustrations were prepared with the intention of their being inserted in this number, but it was found impossible to get them reproduced in time to appear; they will, therefore, appear in the April number instead.

H. GOODCHILD, *Hon. Editorial Secretary.*
66, GLO'STER ROAD,
REGENT'S PARK, LONDON.

31*st March*, 1905.

NEW MEMBERS ELECTED.

P. Johnson, "Arnside," Swinton, Manchester.

Mrs. de Courcy Laffan, 119, St. George's Road, S.W.

PROPOSED FOR ELECTION AS MEMBERS.

Miss M. Lane, The Deanery, Rochester.

The Honble. Mrs. Lane, Kings Bromley Manor, Lichfield.

Dr. P. Chalmers Mitchell, M.A., D.Sc., F.Z.S., M.B.O.U.,
Secretary to the Zoological Society of London,
3, Hanover Square, W.

By the Honble. W. B. Wrottesley.

◆

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

All exhibition specimens—Magnificent Leadbeater Cockatoo (a great winner), cock Slender-bill, 2 perfect Bare-eyes, enormous Lemon-crested—above all winners; perfect cock Pennant Parrakeet, Javan Parrakeet, Golden-headed Conure, cock Rosella, pair Blossom-headed Parrakeets and 1 odd cock, house moulted—above all in show condition; aviary-moulted Zebra Finches (30 pairs), Black Tanager, Pied Blackbird, Shore-Lark (winner), several pairs very high-class Crested and Crested-bred Canaries; Budgerigars, Cockatiels, Pekin Robins, talking Amazon Parrot, young Grey Parrots, and many other varieties of foreign and British birds, guaranteed in perfect health and condition; Piping Bullfinches, 2 tunes, £2 10/- each; *very best* St. Andreasberg Rollers 15/- each. Full particulars on application.

Hollins, Central Arcade, Harrogate.

POST-MORTEM EXAMINATIONS.

The conditions upon which these will be made by Dr. CRESWELL, Eden Lodge, Kingston-on-Thames, are as follows:

(1) The birds must be sent IMMEDIATELY after death.

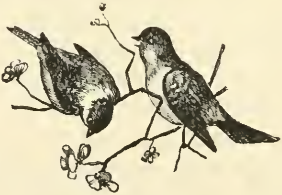
(2) They *must* be packed in a box.

(3) *The letter accompanying them must* NOT *be placed in the box along with the birds.*

(N.B. Unless the above conditions are complied with the package will be destroyed without examination).

(4) The letter must detail *as far as possible* all particulars as to (*a*) date of death,
(*b*) length of illness,
(*c*) symptoms of illness,
(*d*) lodgement and feeding of birds, and
(*e*) especially as to whether egg food or inga seed has been given.

(5) The work will be done gratuitously, and a report published in "Bird Notes," but *under no circumstances whatever will either advice or report be sent by post unless a fee of 2/6 accompanies the letter and bird.* Pressure of work compels Dr. Creswell to make this an invariable rule, and it applies to all members whether they are personally acquainted with him or not.



APRIL, 1905.

The Foreign Bird Club.

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THE LORD DECIES.

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The Countess of Winchilsea.

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Mr. H. Goodchild,
66, Gloucester Road,
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Exhibitional.

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London, S.W.

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March, 1905.

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Acutt, John, 114, Upland Road, East Dulwich. (Dec., 1901).

Anningson, Mrs., Walt-ham-sal, Barton Road, Cambridge. (Dec., 1901).

Armstrong, W., F.G.S., Cramlington, Northumberland. (Oct., 1903).

Baker, Miss M. E., Granite House, Mount Sorrell, Loughborough. (Sept., 1902).

Bamford, Miss, Shorelea, Oldham. (June 1004).

Barber, Mrs. James, Milestone Cottage, Wickford. (April, 1903).

Barker, W. H., 22, Butler Road, Harrow. (July, 1903).

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Beech, Ernest W., 32, Lincoln Road, Peterborough. (July, 1904).

Betts, W. H., F.L.S., F.Z.S., 25, Stratford Place, Camden Square, N.W. (Nov., 1901).

Bliss, H. E., P.O. box 89, Port Elizabeth, Cape Colony. (Jan., 1903).

Bonhote, J. Lewis, M.A., F.Z.S., M.B.O.U., Ditton Hall, Fen Ditton, Cambs. (Jan., 1904).

Boyd, Harold, Barton House, Didsbury, Manchester. (April, 1903).

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Brooksbank, Hugh L., Wallington, Beverley. (March, 1903).

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Buxton, Charles, 39, Harrington Street, Cleethorpes. (Jan., 1904).

Camps, H. T. T., F.Z.S., Linden House, Haddenham, Isle of Ely. (Orig. Mem.)

Carl, F., 6, Red Lion Court, Fleet Street, E.C. (Oct., 1904).

CASTLE-SLOANE, C., F.Z.S., Oat Hall, near Crawley, Sussex. (Nov., 1902).

CATTLE, C. A., Thurston, Bury St. Edmunds. (April, 1903).

CHAMBERLAIN, Dr. C. B. D'EYNCOURT, R.N., "Twynham," Christchurch Road, Bournemouth. (Orig. Mem.).

CHAPLIN, E. W., The Firs, Great Amwell, Herts. (Sept., 1903).

CHETWYND, Mrs., The Hawthorns, Raglan Road, Smethwick, Birmingham. (Nov., 1904).

CLARKE, R. H., M.A., M.B., 9, St. James' Road, Surbiton. (May, 1903).

COOK, ARTHUR, "Glyncote," 31, Kingsbury Road, Gravelly Hill, Birmingham. (Jan., 1903).

CRESWELL, ALFRED HENRY, L.S.A., York Villa, Cinderford, R.S.O., Gloucestershire. (July, 1903).

CRESWELL, W. GEORGE, M.D., F.Z.S., Eden Lodge, Kingston-on-Thames. (April, 1903).

CRONKSHAW, J., Mansion House, Plantation Street, Accrington. (Nov., 1901).

CUMMINGS, ALEXANDER, University House, The Promenade, Cheltenham. (Feb., 1905).

CURTIS, Miss, Kearsney Abbey, Dover. (March, 1904).

CUSHNY, CHARLES, Pain's Hill, Cobham, Surrey. (Orig. Mem.

DART, HENRY, 53, Richmond Road, Kingston-on-Thames,) (Feb., 1903).

DAY, E. C., 238, Cromwell Road, Peterborough. (June, 1903. (Feb., 1903).

DEARING, FREDERICK T., 32, Thames Street, Kingston-on-Thames. (July, 1904).

DECIES, The Lord, Beresford Lodge Birchington. (Nov., 1903).

DENMAN, H. G. E., 157, Chatham Street, Old Kent Road, S.E. (Jan., 1905).

DENNIS, Mrs. HAROLD E., Warrenhurst, Itchingfield, Sussex. (Jan., 1904).

DEWAR, J. F., 2, St. Patrick's Square, Edinburgh. (Orig. Mem.)

DE YARBURGH-BATESON, The Hon. LILLA, Heslington, York. (June, 1903).

DUNLEATH, The Lady, Ballywalter Park, Ballywater, co. Down. (Nov. 1901).

DUTTON, Mrs., Bank Cottage, Walton, Stone, Staffs. (Nov. 1901).

FARRAR, Rev. C. D., Micklefield Vicarage, Leeds. (Dec., 1904).

Fasey, William R., The Oaks, Holly Bush Hill, Snaresbrook. (Jan., 1903).

Fielding, Miss Margaret, Broome Park, Betchworth, Surrey. (June, 1903).

Fillmer, H. R., 52, Ship Street, Brighton. (Orig. Mem.)

Finn, Frank, B.A., F.Z.S., M.B.O.U., 29, Chalcot Crescent, Primrose Hill, N.W. (Sept., 1903).

Fogg-Elliot, Mrs., Staindrop, Darlington. (Dec., 1903).
1902).

Fortlage, Henry E., Holbrook, Redhill, Surrey. (May,

Foster, William Hill, 164, Portland Street, Southport. (Nov., 1901).

Franz, J., 22, Denmark Street, Charing Cross Road, S.W. (April, 1903).

Gibbons, Miss M., Boddington Manor, Cheltenham. (Dec., 1904).

Goodchild, H., M.B.O.U., 66, Gloucester Road, Regent's Park, N.W. (July, 1903).

Gorringe, The Rev. Reginald E. P., 89, Cromwell Road, Peterborough. (Dec., 1902).

Gorter, Madame Alys v., The Delta, Walmer, Kent. (Nov., 1901).

Greene, W. T., M.A., M.D., F.Z.S., 282, Portobello Road, North Kensington, W. (July, 1903).

Halliwell, J., M.R.C.V.S., 11, Westbourne Grove, West Kirby. (March, 1903).

Harding, W. A., F.Z.S., Histon Manor, Cambridgeshire. (Dec., 1903).

Harman, J., 56, Tubbs Road, Harlesden, N.W. (Feb. 1903).

Harrison, J. H., 18, East Beach, Lytham. (Dec., 1901).

Hatcher, J. F., 168, Upper Thames Street, E.C. (June, 1903).

Hawkins, L. W., Estrilda, New Clive Road, West Dulwich. (Orig. Mem.)

Healey, Mrs., 12, Rosetti Gardens Mansions, Cheyne Walk, S.W. (Feb., 1903).

Hollins, J. T., 7, Lowther Arcade, Horrogate. (May, 1903).

Hopkinson, Miss E. M., 45, Sussex Square, Brighton. (Sept., 1902).

Hopkinson, Emilius, M.A., M.B. Oxon., D.S.O., 45, Sussex Square, Brighton. (Oct., 1901).

Horsbrugh, Capt. B. R., A.S.C.

Horton, L. W., Longfield, Bescot, nr. Walsall. (Sept., 1902).
Houlton, Charles, Laburnum House, Denton's Green, St. Helen's, Lancs. (Nov., 1901).
Howe, Frank, 65, Thomas Street, Wellingborough, Northamptonshire. (Feb., 1902).
Howe, Mrs. James, Moss Lodge, Ashton-under-Lyne, Lancs. (July, 1903).
Hubbard, Mrs. D. L., Casa Sta. Monica, Bordighera, Italy. (Jan., 1905).
Hume, James, Hepscott, Morpeth. (June, 1903).
Humphrys, Russell, Southborough, Bickley. (July, 1902).

Ide, Harry, L.D.S.R.C.S. Eng., Eden Street, Kingston-on-Thames. (June, 1903).

Jardine, Miss E. L., Lady Superintendent, Freed Slaves, Home, Zungaree, Northern Nigeria. (Dec., 1902).
Jeffs, W., Bronwen Villa, Victoria Road, Darlaston. (Oct. 1904).
Johnson, P., "Arnside," Swinton, Manchester. (March, 1905).

Keene, Mrs., Sandlea, Abbotsham Road, Bideford. (Nov., 1901).
Kestermann, Herr Hermann, 3, Südstrasse, Greig i. V., Germany. (Feb., 1903).
Keytel, P. C., Brighton Castle, Mouille Point, (P. O. box 633), Cape Town. (June, 1903).

Laffan, Mrs. de Courcy, 119, St. George's Road, S.W. (March, 1905).
Lane, The Hon. Mrs., King's Bromley Manor, Lichfield. (April, 1905).
Lane, Miss, The Deanery, Rochester. (April, 1905).
Leverkühn, Aulic Counseller Dr. Paul, M.D., C.M.Z.S., Director of Scientific Institutions, The Palace, Sophia, Bulgaria. (July, 1903).
Little, Miss C. Rosa, Baronshalt, The Barons, East Twickenham. (Nov., 1902).

Mackie, D., 33, Argyle Street, Ayr, Scotland. (Sept., 1903).
Martin, T. J., High Street, Lowestoft. (Nov., 1903).
Master, G., M.B., B,C., 86, Guildhall St., Bury-St.-Edmunds. (Nov., 1903).
Mathias, H. W., F.R.H.S., Doone Cottage, Thames Ditton, Surrey. (June, 1903).
McDonagh, J. E. R., 13, Greencroft Gardens, S. Hampstead, N.W. (Jan., 1903),

McKill, A. R., Ashfield Lodge, Thorner, nr. Leeds. (Dec., 1902).

Mellor, Mrs., Fair Lawn, Lytham, Lancs. (July, 1904).

Miller, Mrs. K. Leslie, 27, Belgrave Road, S.W. (Jan., 1904.)

Mitchell, P. Chalmers, M.A., D.Sc., F.Z.S., M.B.O.U., Secretary to the Zoological Society of London, 3, Hanover Square, London, W. (April, 1905).

Momber, A. R. T., La Tuinia, San Remo. (Oct., 1904).

Morse, D. S., Bank of Ireland, Mount Bellew, Ireland. (Jan. 1904).

Mortimer, Mrs., Wigmore, Holmwood, Surrey. (Nov., 1901).

Mottram, G. N., L.R.C.P., Stoke Courcey, Bridgwater. (June, 1903).

Munn, P. W., Laverstack, Whitchurch, R.S.O., Hants. (Sept., 1903).

Newbould, T., Oakdene, Linthorpe, Middlesborough. (Dec., 1902).

Newman, T. H., F.Z.S., M.B.O.U., 20, Montpelier Square, London, S.W. July, 1903).

Nicholson, Miss Mary E., Grove Cottage, Grove Road, Wallasey, Cheshire. (June, 1903).

North, Josiah, 314, Oxford Road, Reading. (Oct., 1904).

Northbourne, The Lady, Batteshanger, Eastry, S.O., Kent. (May, 1905).

Oakey, W., 2, Stoughton Street, Leicester. (Orig. Mem.).

Oberholser, Harry C., 1349, Harvard Street, Washington, D.C., U.S.A. (Dec., 1903).

Osbaldeston, William, 11, Stephenson Terrace, Preston, Lancs. (Orig. Mem.)

O'Reilly, Nicholas S., 9, Royal Crescent, Ramsgate, Kent. (Orig. Mem.)

Pantin, Charles E., Heathdene, Vanbrugh Park Road East, Blackheath. (June, 1903).

Perkins, Septimus, 25, Ceylon Place, Eastbourne.

Perreau, Capt. G. F. 2/4, Gurkha Rifles, Bakloh, Punjab, India. (Dec., 1903).

Perryman, C. W., Bifrons, Farnborough, Hants. (July, 1902).

Perring, C. S. R., 4, Cambridge Villas, High Street, Teddington. (Oct., 1902).

Picard, H. K., 10, Sandwell Crescent, W. Hampstead, N.W. Oct., 1901).

Pickles, W. H., Stoneyhurst, Morecombe, Lancashire.

Pond. Mrs. T. A., 174, Upper Parliament Street, Liverpool. (Nov., 1902).

Porteous, James T., Deneholme, Hexham. (Sept., 1903).

Restall, J. A., 82, Cambridge Street, Birmingham. (Nov., 1903).

Rice, Capt. G., Clayquhat, Blairgowrie, N.B. (July, 1902).

Richard, E., Hotel Metropole, Brighton. (Nov., 1901).

Rihl, C. L., 38. E. Logan Street, Philadelphia, U.S.A. (Jan., 1905).

Roberts, Norman B., West Retford Cottage, Retford, Sheffield. (Nov., 1901).

Rogerson, Mrs., Fleurville, Cheltenham. (Feb., 1903).

Rotch, C. D.. 3, Beach Lawn, Waterloo, nr. Liverpool. (Orig Mem.)

Rycroft, Mark E., 8, Park Street, Wakefield. (April, 1903).

Salt, Thomas. L.R.C.P., Yiewsley, Saltley, Birmingham. (July, 1903).

Salter, A. J., Thame, Oxon. (Nov., 1902).

Sapsford, J. T., Stanley Road, Teddington. (July, 1904).

Savage, A., 3, Rue Bihorel, Bihorel, Rouen, France. (Dec., 1901).

Saywell, Miss **Theodora**, The College, Bromsgrove, Worcestershire. (Oct.. 1902).

Scott, Professor W. E. D., 341, Nassau Street, Princetown, New Jersey, U.S.A. (Sept., 1902).

Seth-Smith, David, F.Z.S., M.B.O.U., 14, Canning Road, Addiscombe. (Nov., 1903).

Skey, Mrs., 2, Braidwood Terrace, Plymouth. (Nov., 1902).

Smith, H. B., Grangefield, Park Road South, Birkenhead. (Orig. Mem.)

Smithwick. Capt. W. F., Youghal House, Nenagh, Ireland. (Dec., 1902).

Speed, Hedley. 12, Victoria Park, Bangor. (Nov., 1901).

Storey, James, 7, Blenheim Terrace, St. John's Wood, N. W. (Orig. Mem.).

Suggitt, R., Suggitt's Lane, Cleethorpes. (Dec., 1903).

Swan, J. A., 87, Lower Kennington Lane, S.E. (Oct., 1901).

Swaysland, W., 47, Queen's Road, Brighton. (Orig.Mem.).

Tanner, F. L., L.D.S.R.C.S., Eng., Vanvert House, Guernsey, (Feb., 1904).

THORNBORROW, THOS. KEMPING, 51, Swinton Street, King's Cross, London. (Sept., 1902).
THWAITES, GEORGE, Dunedin Villa, Northampton Road, Market Harborough. (Feb., 1903).
TIDEY, J. W., 11, York Road, Worthing. (Nov., 1902).
TOMASSI BALDELLI, La Contessa G., 4, Via Silvio Pellico, Florence, Italy. (Dec., 1901).
TOWNSEND, S. M., 3, Swift Street, Fulham, S.W. (Orig. Mem.)
TOYE, Mrs. M., Stanhope, Bideford, N. Devon.
TRECHMANN, Dr. MAX M., 131, St. George's Road, S.W. (Dec., 1904).
TRAVERS, Miss ANNETTE, St. Cloud, Beaupare, co. Meath. (Dec., 1903).
TRUE, WILL, 74, Comeragh Road, London, W. (Jan., 1905).

VERE, The Very Rev. Canon, 21a, Soho Square, London, W. (Nov., 1903).

WARDALE, H., Willington House, Willington Quay, Northumberland. (May, 1903).
WALLACE, JAS. SIM, D.Sc., M.D., C.M., 30a, Wimpole Street, London, W. (Jan., 1904).
WEBB, W., Selwyn House, Brown's Road, Surbiton. (Jan., 1904).
WHEELER, ALFRED, 2, West View Terrace, Droitwitch Road, Worcester. (Sept., 1903).
WHITTAKER, T. H., Ravensmere, Marine Drive, Ansdell, Lytham, Lancs. (Dec., 1903).
WEINER, A. F., F.Z.S., 6, Northwick Terrace, Maida Vale, N.W. (Nov., 1901).
WILMOT, The Rev. RICHARD H., Poulton Vicarage, Fairford. (Nov., 1902).
WILSON, T. N., M.A., Oak Lodge, Bitterne, nr. Southampton. (Jan., 1902).
WINCHILSEA and NOTTINGHAM, The Countess of, Harlech, Merioneth. (June, 1903).
WOODHOUSE, C. W., 43, St. Michael's Road, Bedford. (July, 1903).
WOOLSTON, T., 22, Wilson Street, Middlesborough. (Oct., 1903).
WROTTESLEY, The Hon. Walter B., F.Z.S., 8, Herbert Crescent, S.W. (Dec., 1902).

YALLOP, F. J., 85, Prince of Wales Road, Norwich. (July, 1902).

YOUNG, WILLIAM, Taw Vale, Barnstable. (Nov., 1903).

March, 1905.

Roll of Associates.

Bide, Arthur R., Highlands, Guildford Road, Farnham, Surrey. (June, 1903).
Bramley, J., 2, Beech Grove, Harrogate. (Jan., 1904).
Burge, S., Ivy Cottage, Fairford. (Nov, 1901).
Bullock-Webster, A., King's Close, Barnstaple. (Oct., 1902).

Campbell, Miss, Market Square, Ely, Cambs. (March, 1903).
Collier, Miss C. L., 119, King Henry's Road, South Hampstead. (June, 1903).
Constable, The Rev. W. J., Uppingham. (April, 1903).
Curtis, Mrs. D. W., Market Place, Stowmarket. (Sept., 1902).

Desprez, A. H., South Alton, Denton Avenue, Gledhow Leeds. (Oct., 1903).

Gordon, Miss, 57, Burlington Road, Bayswater, W.

Halliday, Charles, Bridge Street, Banbridge, co. Down. (June, 1903).
Harris, Charles, 15, Clayton Street, Newcastle-on-Tyne. (Oct., 1902).
Harton, Miss E., 53, Goldhurst Terrace, South Hampstead, N.W. (Nov., 1903).
Hawke, The Hon. M. C., Wighill Park, Tadcaster.
Hentsch, W. J., Douglas Villa, Acacia Grove, New Maldon, Surrey. (Jan., 1904).
Hincks, Miss E. M., Baron's Down, Dulverton. (Jan. 1903).
Howman, Miss, Sherwood, Essex Grove, Upper Norwood, S.E. (Nov., 1901).
Hulton, Mrs., Hulton Hall, Bolton-lea-Moors. (June, 1903).
Hyde & Co., Ltd., R., Harold Street, Camberwell, S.E. (May, 1902).

Lee, Miss Constance, Budleigh, Salterton, R.S.O. Devon. (Dec., 1904).

Marshall, Mrs., Ashley Warren, Walton-on-Thames. (Dec., 1903).

MARTIN, Mrs. HORACE, 13, Hillside, Wimbledon, Surrey. (May, 1994).
MCADAM, Mrs. J., 24, Cambridge Terrace, Hyde Park, W. (June, 1903).
MOORE, Mrs. G. W., Moore House, Finchley Road, St. John's Wood. N.W. (Oct., 1903).
MOSS, GEORGE, 51, Wellington Street, Loughborough. (Nov., 1902).
MOXON, GEO. W., Bretton, West, Wakefield. (Jan., 1904).
MITCHELL, H., Duchy Court, Harrogate. (Sept., 1903).

NICHOLSON, Miss MARY E., Grove Cottage, Grove Road, Wallasey, Cheshire.

PANTON, Miss MAY, 14, King Edward's Road, Oldfield Park, Bath. (June, 1903).
PENGELLEY, CHARLES H. C., Bridge House, Hollywell, St. Ives, Hunts. (Oct., 1903).

SEVASTOPULO, Mrs. G. D., 147, Gloucester Terrace, Hyde Park London, W. (Oct., 1901).
SHARP, H. S., Heathfield, Bingley, Yorks. (Nov., 1901).
SLATTER, A. C., 17, Commercial Street, Hereford. (July, 1903).
STACY-MARKS, Mrs. V., Westbury, Berrylands Road, Surbiton. (Dec., 1903).
SNELL, S. H., M.D., Glenshee Lodge, 261, Trinity Road, Wandsworth, S.W. (April, 1904).

TWEED, H. R. B., B.A. (Oxon.), Laindon Frith, Billericay. (June, 1903).

WADDELL, Miss PEDDIE, Balquhatstone, Slammannen, Stirlingshire, N.B. (July, 1903).
WILDE, Miss MAUDE, Little Gaddesden, Berkhampstead. (Nov., 1901).
WILSON, H. B., Angleham, Rosebery Crescent, Newcastle-on-Tyne. (Dec., 1903).
WRIGHT, Mrs., New Brook, Atherton, Manchester. (Oct. 1904)

RULES.

1. The objects of "The Foreign Bird Club" shall be the mutual encouragement and assistance of the members and associates in the keeping, breeding, and exhibiting of foreign birds, and the improvement of shows in regard to them.

2. The Club shall be composed of members and associates. Every member shall pay an entrance fee of 2/6 and an annual subscription of 10/-. Every associate shall pay an entrance fee of 2/6 and an annual subscription of 5/-. Associates shall have such of the privileges of members as the Council shall from time to time direct. Subscriptions shall be due and payable in advance on the 1st of March in each year. If any member's or associate's subscription shall be more than three months overdue he shall be suspended from all the benefits of the Club, and if more than nine months overdue notice of his having ceased to be a member or associate of the Club, and of the cause, may be published in the Notices to Members; and on such notice being published he shall cease to be a member or associate accordingly, but his liability for the overdue subscription shall continue.

3. New members shall be proposed in writing by a member of the Club and new associates by either a member or an associate: and the name and address of every person thus proposed, with the name of the person proposing him, shall be published in the Notices to Members. Unless the candidate shall, within fourteen days after the publication of his name, be objected to by at least two members, he shall be duly elected. If two or more members lodge with either of the Secretaries objections to any candidate he shall not be elected, but the signature to the signed objections must be verified by the Scrutineer. The Secretaries and the Scrutineer shall not disclose the names of the objectors. Associates desirous to become members shall go through the same form of election as other candidates but shall not pay an entrance fee.

4. Any member or associate wishing to resign at the end of the current year of the Club shall give notice of his intention to one of the Secretaries before the end of February, and in default of such notice he shall be liable for the following year's subscription.

5. The officers of the Club shall be elected from the members and shall consist of a President, one or more Vice-Presidents, an Auditor, a Scrutineer, one or more Secretaries, a Treasurer, a Council of twelve members, and such number of Judges as shall from time to time be determined by the Council. The Secretary or Secretaries and the Treasurer shall be ex-officio members of the Council. The Secretary or Secretaries, the Treasurer, the Council, and the Judges shall be elected annually by the members in manner hereinafter provided. The other officers shall be elected annually by the Council immediately after their own election.

6. The election of the Secretary or Secretaries, Treasurer, Council, and Judges shall take place every year between the 15th of January and the 5th of February. The Secretaries shall ascertain which of the members are willing to stand for election to office, and shall send to each member of the Club, on or about the 15th of January, a voting paper containing a list of all such members, showing the offices for which they are respectively seeking election. Each member shall make a cross (x) opposite the names of those for whom he desires to vote, and shall sign the paper at the foot and send it in a sealed envelope to the Scrutineer, so that he may receive it before the 5th of February. The Scrutineer shall prepare a return of the officers elected, showing the number of votes recorded for each candidate, and send it to one of the Secretaries for publication in the Notices to Members for February. The Scrutineer shall not reveal to any person how any member shall have voted. In the event of an equality of votes the President shall have a casting vote.

7. Dealers in birds shall not be eligible for election to any office in the Club, except that of Judge. For the purpose of this rule any member who habitually buys birds with the intention of selling them again shall be deemed a dealer in birds. Before the annual election of officers the Secretaries shall submit to the Council the list of members willing to stand for election to the Secretaryship, the Treasurership, and the Council, and the Council shall remove from the list the name of any candidate who shall be, in the opinion of the Council, a dealer in birds within the meaning of this rule. The decision of the Council, or of any Committee to whom the Council shall delegate its powers under this rule, shall be final. When a dealer is proposed as a member of the Club, the fact of his being a dealer shall be stated in the Notices to Members.

8. It shall be lawful for the Council to delegate any of its powers to a Committee.

9. The Council may appoint an Arbitration Committee which may decide questions at issue between members and associates when requested to do so by both parties. Any decision of such Committee shall be final. Except to the extent permitted by this rule, the Club and its officers shall decline to concern themselves with disputes between members.

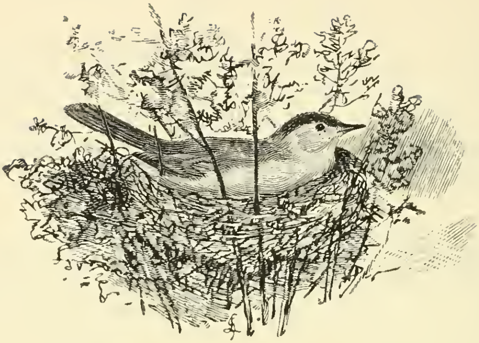
10. The Council shall have power to alter and add to the Rules, but shall give to the members notice of any proposed alteration or addition, and in the event of six members objecting thereto within fourteen days the proposed alterations or addition shall be submitted to the votes of the members. Failing such objection the alteration or addition shall date from its adoption by the Council.

11. The Council shall have power to expel any member or associate at any time.

12. Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person. The Scrutineer shall not be a candidate at any election at which he acts as Scrutineer.

13. If any office become vacant at any time other than at the end of the current year of the Club, the Council shall have power to nominate any member to fill the vacancy.

14. The decision of the majority of the Council shall be final and binding on the Club, but a resolution passed by the Council shall not be acted upon unless there be an absolute majority of the Council (and not merely of those voting) in its favour.



NOTICES TO MEMBERS AND ASSOCIATES.

FOR the second time in this Volume the Number has disappointed the Editorial Secretary, as it was hoped that a sufficient number of illustrations would be published as would have compensated for their absence from the March part.

Against this, however, the Editor has the pleasure of announcing that, by the great generosity of one of the Members of the Council, (who does not wish his name to appear) the Magazine will have the benefit of the Editor's services in his other capacity of Artist, in respect of the text and other black-and-white illustrations, without cost to the Club beyond that incurred in the reproduction of the various drawings. The Magazine will therefore have as many illustrations, for the present, as the Club can afford to reproduce, and contributors are desired to keep this in mind, so that the fullest advantage may be taken of this unique gift.

Three black-and-white drawings, in wash, are available now, all three being done from living birds: of the Avocet (*Recurvirostra avocetta*), the Great Black Woodpecker (*Picus martius*), and the Nutcracker (*Nucifraga caryocatactes*). Any Member or Associate having experience of any of these birds in captivity, or who has seen them in a state of nature, will be greatly benefitting the Club by contributing an article on them.

It was decided at the last meeting of the Council that, as he number of the coloured plates was to be increased, and those by myself, from living birds, to be signed, as before, the subscription for Associates should be reduced to 5/- per annum.

Any suggestions that Members or Associates may have to make, for the improvement of the Magazine, will be gladly received and considered by the undersigned.

H. Goodchild, *Hon. Editorial Secretary,*
66, Gloucester Road, Regent's Park,
27th April, 1905. London, N.W.

◆

NEW MEMBERS ELECTED.

Miss M. Lane, The Deanery, Rochester.

The Honble. Mrs. Lane, Kings Bromley Manor, Lichfield.

Dr. P. Chalmers Mitchell, M.A., D.Sc., F.Z.S., M.B.O.U., Secretary to the Zoological Society of London, 3, Hanover Square, W.

PROPOSED FOR ELECTION AS MEMBERS.

The Lady Northbourne; Betteshanger, Eastry, S. O., Kent. *By Miss Lane.*

The Dowager Countess of Londesborough; 17, Norfolk Street, Park Lane, W.
By the Honble. W. B. Wrottesley.

B. R. Bucknell; 84, Milton Avenue, East Ham.

Capt. G. E. Shelley, F.Z.S., M.B.O.U. (late Grenadier Guards); 39, Egerton Gardens, S.W.

Wesley T. Page, F.Z.S., Mem. Bombay N. H. S.; 6, Rylett Crescent, Shepherd's Bush, W.
By the Hon. Editorial Secretary.

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the **10th** of the month.

Wanted—Golden-fronted Bulbul, tame preferred.
W. B. WROTTESLEY, 8, Herbert Crescent, S.W.

Cinnamon cock Canary, bred 1903; from 3rd prize Palace 1902 (selling class) and 1st Peterborough, 1902, price £1 1s.
MCADAM, 24, Cambridge Terrace, Hyde Park.

◆

POST-MORTEM EXAMINATIONS.

The conditions upon which these will be made by Dr. CRESWELL, Eden Lodge, Kingston-on-Thames, are as follows:

(1) The birds must be sent IMMEDIATELY after death.

(2) They *must* be packed in a box.

(3) *The letter accompanying them must* NOT *be placed in the box along with the birds.*

(N.B. Unless the above conditions are complied with the package will be destroyed without examination).

(4) The letter must detail *as far as possible* all particulars as to (*a*) date of death,
(*b*) length of illness,
(*c*) symptoms of illness,
(*d*) lodgement and feeding of birds, and
(*e*) especially as to whether egg food or inga seed has been given.

(5) The work will be done gratuitously, and a report published in "Bird Notes," but *under no circumstances whatever will a report be sent by post unless a fee of* 2/6 *accompanies the letter and bird.* Pressure of work compels Dr. Creswell to make this an invariable rule, and it applies to all members whether they are personally acquainted with him or not.

The Foreign Bird Club.

NOTICES TO MEMBERS AND ASSOCIATES.

In the current issue there are published, I believe, a greater number of drawings of living birds than appear in any other monthly magazine devoted to birds. While reproductions of photographs (whether of nests, nesting sites, or birds) are common, original drawings, even from skins or mounted specimens, are not published to any great extent in other periodicals, probably on account of the cost of the originals.

It should be understood that I do not wish to imply that photographs are not acceptable. Photographs for reproduction, of any subjects of interest to the members of the Foreign Bird Club, will be gladly received by me and submitted to the Magazine Committee for consideration.

In this number I have inflicted an unusual amount of my own composition upon our readers, but the remedy for this rests with the members and associates themselves, and I shall only be too glad to set aside my own contributions, in favour of those by other writers.

The Magazine Committee have arranged that an extra copy of the Magazine shall be sent to any member or associate who contributes an article to "BIRD NOTES."

As the year advances, many of our members and associates will be paying visits to the Continent, and I hope that they will not forget the less fortunate ones at home, who like to hear accounts, from personal observation, of Bee-eaters, Rollers, Hoopoes, Golden Orioles, Rock - Thrushes, Blue-throated Warblers, and the many other beautiful birds so common on the Continent but rare in Britain. Any such observations, however short, will be welcomed.

The International Ornithological Congress takes place in London from June 12th to 17th inclusive. Any of our members or associates desirous of joining should apply at once to

J. LEWIS BONHOTE, M.A., F.Z,S., M.B.O.U.,
Ditton Hall,
Fen Ditton,
Cambridge.

H. GOODCHILD, *Hon. Editorial Secretary*,
66, GLOUCESTER ROAD, REGENT'S PARK,
29*th May*, 1905. LONDON, N.W.

◆

NEW MEMBERS ELECTED.

The Lady NORTHBOURNE ; Betteshanger, Eastry, S. O., Kent.

The Dowager Countess of LONDESBOROUGH ; 17, Norfolk Street, Park Lane, W.

B. R. BUCKNELL ; 84, Milton Avenue, East Ham.

Capt. G. E. SHELLEY, F.Z.S., M.B.O.U. (late Grenadier Guards) ; 39, Egerton Gardens, S.W.

WESLEY T. PAGE, F.Z.S., Mem. Bombay N. H. S. ; 6, Rylett Crescent, Shepherd's Bush, W.

PROPOSED FOR ELECTION AS MEMBERS.

Capt. LIONEL A. WILLIAMS, F.Z.S., M.B.O.U., Isthmian Club, Piccadilly.

JOHN GERRARD, M.B.O.U., Government Inspector of Mines, Worsley, near Manchester.

GEORGE E. LODGE, F.Z.S., M.B.O.U., 5, Thurloe Studios, Thurloe Square, S.W.

By the Hon. Editorial Secretary.

◆

CASES FOR BINDING VOL. III.

These are now ready, price 1/2 post free, and may be obtained from the Publishers, Messrs. W. T. MOULTON & Co., 4, Church Street, Brighton.

POST-MORTEM EXAMINATIONS.

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(N.B. Unless the above conditions are complied with the package will be destroyed without examination).

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    (*b*) length of illness,
    (*c*) symptoms of illness,
    (*d*) lodgement and feeding of birds, and
    (*e*) especially as to whether egg food or inga seed has been given.

(5) The work will be done gratuitously, and a report published in "Bird Notes," but *under no circumstances whatever will a report be sent by post unless a fee of* 2/6 *accompanies the letter and bird.* Pressure of work compels Dr. Creswell to make this an invariable rule, and it applies to all members whether they are personally acquainted with him or not.

❁ Foreign Bird Club. ✥ Balance Sheet for 1904-5 ❁

	£	s.	d.
Donations towards Deficit 1903-4	19	2	6
Members' Subscriptions for 1904 (173 @ 10/-)	86	10	0
Associates' ,, ,, (43 @ 6/-)	12	18	0
Entrance Fees (25 @ 2/6)	3	2	6
Trade Advertisements	10	6	0
Sales of Bindings for Vols. I. & II.	2	3	5
Donations towards Illustrations	1	12	4
Members' Advertisements, Bird Market	0	10	0
Members' Overdue Subscriptions for 1903	0	10	0
Sales of *Bird Notes*. Vols I. & II.	4	5	6
,, ,, Current Vol. III.	4	16	4
Donations to pay off Deficit for present year: Anon	2	2	0
Bird Lover	2	2	0
Dr. W. G. Creswell	2	2	0
Dr. Clarke	2	2	0
L. W. Horton	2	2	0
Balance	0	0	9
	£156	7	4

	£	s.	d.
Balance from 1903-4	25	11	1
Moulton & Co. printing *Bird Notes*	68	13	0
Lithographed Plates, coloured, and black and white	23	8	0
T. B. Brown Ltd. blocks for illustrations	2	13	1
Cost of bindings for *Bird Notes*	0	17	5
Stationery	9	15	10
Medals, cost and engraving	4	17	8
Postages	20	11	3
	£156	7	4

H. GOODCHILD, *Hon. Editorial & General Secretary.*

W. B. WROTTESLEY, *Hon. Treasurer.*

Audited and found correct,

C. S. R. PERRING, 20*th April*, 1905.

The Foreign Bird Club.

NOTICES TO MEMBERS AND ASSOCIATES.

FINDING that the office of Editorial Secretary has entailed far more work than I had anticipated, I have gladly availed myself of Dr. Creswell's help in the production of the present number, and it is due to his help that this part is out punctually.

It is hoped that an arrangement may be made whereby the offices of Secretary and Editor may be made distinct, in which case I shall probably be able to remain as Secretary.

H. GOODCHILD, *Hon. Editorial Secretary*,
66, GLOUCESTER ROAD, REGENT'S PARK,
12*th June*, 1905. LONDON, N.W.

NEW MEMBERS ELECTED.

Capt. LIONEL A. WILLIAMS, F.Z.S., M.B.O.U., Isthmian Club, Piccadilly.

JOHN GERRARD, M.B.O.U., (Government Inspector of Mines), Worsley, near Manchester.

GEORGE E. LODGE, F.Z.S., M.B.O.U., 5, Thurloe Studios, Thurloe Square, S.W.

◆

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Editorial Secretary by the 10th of the month.

Wanted: a hen Redrump, in breeding condition.
Dr. CRESWELL, Kingston-on-Thames.

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The Foreign Bird Club.

NOTICES TO MEMBERS.

The Council has resolved to dis-associate the offices of Editor and General Secretary, and on my suggestion has unanimously appointed Dr. CRESWELL to the former office.

A vacancy has occurred on the Council by the resignation of Mr. F. FINN, and in accordance with Rule 13 Mr. LEONARD W. HORTON has been nominated to fill the vacancy.

In accordance with the precedent of former years the August issue of *Bird Notes* will be suspended. Consequently Dr. CRESWELL will not undertake *post mortems* between this date and the 15th of August, except in cases where a report by post is desired.

H. GOODCHILD, *Hon. Secretary*,
66, GLOUCESTER ROAD, REGENT'S PARK,
15*th July*, 1905. LONDON, N.W.

PROPOSED FOR ELECTION AS MEMBER.

JAS. MCHARDY, 24, Conan Mansions, West Kensington.
By Dr. CRESWELL.

CHANGES OF ADDRESS.

Mrs. HAROLD E. DENNIS, The Beeches, Fay Gate, Sussex.
LEONARD W. HORTON, Hill House, Compton, Wolverhampton.
Miss MARY E. NICHOLSON, Meadow Croft, Upton, Birkenhead.

BOUND VOLUMES OF "BIRD NOTES."

Of Volume I. there remain only 8 copies,	
to Members and Associates - - -	12/6
to others - - - - - - -	17/6
,, II. there remain only a few copies,	
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◆

THE BIRD MARKET.

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FOR SALE.—Cock Zebra Finch, 2/6; Pair Madagascar Love Birds, 4/6; Cock Java Sparrows, 2/6; all in out-door aviary.
Dr. SNELL, Wandsworth Common.

Pair Pekin Robins, most beautifully matched pair owner has ever seen, strong and healthy, plumage as close and firm as velvet, over a year in present owner's care; in cage £1 1s.—Mrs. HEALEY, 12, Rossetti Gardens Mansions, Cheyne Walk, Chelsea.

Young yellow hen Canaries, two young hand-reared hen Bullfinches, all 2/- each.
Miss BROOKSBANK, Tickhill, Rotherham.

The Foreign Bird Club.

NOTICES TO MEMBERS.

The Magazine Committee regrets that there is no plate issued this month, in consequence of Mr. Goodchild not having been able to arrange for the production of the whole edition before our going to press.

W. Geo. Creswell,
Hon. Editorial Secretary.

15*th Sept.*, 1905.

NEW MEMBER ELECTED.

Jas. McHardy, 24, Conan Mansions, West Kensington.

PROPOSED FOR ELECTION AS MEMBERS.

Mrs. G. W. Carlyon, Brockenhurst, Hants. *By* Mr. Fillmer.

Mrs. Good, Southampton Cottage, Ashley Down, Bristol.

Mrs. E. Warren Vernon, The Wainholm, Toddington, Dunstable, Beds.

Evan J. Creswell, 2, West Avenue Road, Walthamstow. *By* Dr. Creswell.

Miss Collier, 119, King Henry's Road, South Hampstead, N. W. *By* Mr. Goodchild.

PROPOSED FOR ELECTION AS ASSOCIATE.

The Hon. Mrs. Somerset Ward, Carrowdore Castle, Donaghadee, Co. Down. *By* Dr. Creswell.

THE BIRD MARKET.

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Wanted: Pair of Budgerigars in breeding condition.
B. R. BUCKNELL, 84, Milton Avenue, East Ham.

Wanted: Pair Parson Finches, 2 Hen Grey Java Sparrows, Hen Saffron Finch, Hen Cockateel; all for breeding.
Mrs. MORTIMER, Wigmore, Holmwood, Surrey.

◆

THE FORTHCOMING SHOW SEASON.

THE Show Committee has granted Medals to the following Show. Other Shows are now under consideration and will be duly announced.

The Show Committee wishes to call attention to the fact that they are giving a Bronze Medal at the undermentioned Show to be won by a member who has not previously won a medal. They hope that members will support Shows where Club Medals are given.

Members are reminded that they MUST put "F. B. C." after each entry.

L. C. B. A. Earl's Court Exhibition, London. October 19 and 20. Classification for ten classes for Foreign Birds. Two Silver Medals and one Bronze. Judges, Messrs. Fillmer and Seth-Smith. Schedules from Mr. J. Tyson. 169, Sloane Street, London, S. W.

S. M. TOWNSEND, *Hon. Exhibitional Secretary*,
3, Swift Street, Fulham, S. W.

REGULATIONS AS TO CLUB MEDALS

MADE BY THE SHOW COMMITTEE OF THE COUNCIL.

1. All Medals shall be given for POINTS, which are to be counted as follows:—C. 1, H. C. 2, and one number higher for each higher award.
2. Extra Prizes shall count for Points, and *all* entries compete, (except as provided in Rule 9).

3. Subject to special resolution of the Committee to the contrary, when two Medals are given at the same Show the second shall be for next highest points to the winner of the first.

4. Members exhibiting at Shows where Club Medals are given *must* place the initials " F. B. C." after *each* entry in the entry form, and request the Secretary to insert the same in the Show Catalogue.

5. No member shall win more than TWO medals in one season, one silver and one bronze, or more than ONE medal at the same Show.

6. No medal shall be given at any Show unless the Classification and the name of the Judge be first submitted to and approved by the Committee. Preference shall be given to Shows at which the Club's Classification is adopted and one of the Club's Judges appointed.

7. No Medal shall be given at any Show where less than THREE Classes for Foreign Birds are provided, and no Silver Medal where less than SIX Classes. The Show Committee reserve the right of waiving this number at their discretion.

8. In the case of a tie the exhibitor taking most money in prizes shall win, and if there still be a tie the exhibitor with most entries shall win.

9. Medals shall be given at OPEN SHOWS only, and points in members' classes shall not be counted.

10. No Medal shall be awarded at any Show unless at least THREE members compete.

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OCTOBER, 1905.

The Foreign Bird Club.

NOTICES TO MEMBERS.

Those members who would like to frame copies of the coloured plates which have appeared in our issues can obtain the same in sets of four, revised and signed by the Artist. Application for these must be made to the Publishers. Price, the set of four, to Members and Associates 4/-; to others 5/-.

W. GEO. CRESWELL,
15*th Oct.*, 1905. *Hon. Editorial Secretary.*

NEW MEMBERS ELECTED.

Mrs. G. W. CARLYON, Brockenhurst, Hants.

Mrs. GOOD, Southampton Cottage, Ashley Down, Bristol.

Mrs. E. WARREN VERNON, The Wainholm, Toddington, Dunstable, Beds.

EVAN J. CRESWELL, 2, West Avenue Road, Walthamstow.

Miss COLLIER, 119, King Henry's Road, South Hampstead.

NEW ASSOCIATE ELECTED.

The Hon. Mrs. SOMERSET WARD, Carrowdore Castle, Donaghadee, Co. Down.

PROPOSED FOR ELECTION AS MEMBERS.

The Lord CLIFTON, Cobham Hall, Gravesend.

Dr. FREDERICK W. D'EVELYN, Phelan Building, San Francisco, Cal.

Prof. Dr. C. F. HODGE, Clark University, Worcester, Mass.

By Dr. CRESWELL.

THE SHOW SEASON.

MEDALS have been granted to the following Shows, in addition to those already announced:

Norwich. October 26th & 27th. Classification for six classes for Foreign Birds. One Silver Medal. Judge, Mr. J. F. Hills. Schedules from Mr. R. Roll, 14, Rowington Road, Norwich.

Manchester. October 27th & 28th. Classification for three classes for Foreign Birds. One Bronze Medal. Judge, Mr. Dewar. Schedules from Mr. G. W. F. Lythgoe, 25, Stamford Street, Old Trafford, Manchester.

Nottingham. Open Show. November 18th & 20th. Classification for four classes for Foreign Birds. One Bronze Medal. Judge, Mr. Geo. E. Weston. Schedules from Mr. G. E. Wilkinson, 7, Wellington Square, Nottingham.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, Swift Street, Fulham, S. W.

◆

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◆

THE BIRD MARKET.

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NOVEMBER, 1905.

The Foreign Bird Club.

NOTICES TO MEMBERS.

To the great regret of Mr. Goodchild and the Magazine Committee there is no plate available for this issue. It was intended to give a reproduction (by permission) of Joseph Wolf's "Black-necked Swan," but it was not possible to get it done in time.

W. Geo. Creswell,
15*th Nov.*, 1905. *Hon. Editorial Secretary.*

NEW MEMBERS ELECTED.

The Lord Clifton, Cobham Hall. Gravesend.
Dr. Frederick W. D'Evelyn, Phelan Building, San Francisco, Cal.
Prof. C. F. Hodge, Ph.D., Clark University, Worcester, Mass.

PROPOSED FOR ELECTION AS MEMBERS.

Mrs. Partridge. 6, Hyde Vale, Greenwich. *By* Mr. Franz.
C. Row, Cornard Road, Sudbury. *By* Mr. Cattle.

CHANGES OF ADDRESS.

Mr. Cronkshaw. 100, Arden Terrace, Accrington.
Dr. Greene, Great Northern Road, Dunstable. Beds.
Mr. Webb, 1, North Road, Surbiton.
Mr. Newman, Newlands, Harrowdene Road, Wembley, Middlesex.
Mrs W. Vernon, Toddington Park, Dunstable, Beds.

THE SHOW SEASON.

MEDALS have been granted to the following Shows, in addition to those already announced:

Nottingham. Open Show. November 18th & 20th. Classification for four classes for Foreign Birds. One Bronze Medal. Judge, Mr. Geo. E. Weston. Schedules from Mr. G. E. Wilkinson, 9, Wellington Square, Park Side, Nottm.

Preston. December 1st & 2nd. Classification for six classes for Foreign Birds. One Silver Medal. Judge, Mr. Chas. Houlton. Schedules from Mr. W. Osbaldeston, 3, Tithe Barn Street, Preston.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, Swift Street, Fulham, S. W.

◆

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Two cock 1905 Virginian Cardinals, aviary-hatched, over moult, £1 each; pair Green Cardinals, ditto £1.

Wanted—cock Blue Robin.

HAWKE, Wighill Park, Tadcaster.

DECEMBER, 1905.

The Foreign Bird Club.

NOTICES TO MEMBERS.

OUR Publishers, Messrs. W. T. Moulton and Co., 4, Church Street, Brighton, will be obliged by prompt notification in the event of any delay or mistake in the delivery of the Magazine.

W. GEO. CRESWELL,
Hon. Editorial Secretary.

15*th Dec.*, 1905.

NEW MEMBERS ELECTED.

Mrs. PARTRIDGE, 6, Hyde Vale, Greenwich.
C. H. ROW, Irene House, Cornard Road, Sudbury.

PROPOSED FOR ELECTION AS MEMBERS.

Miss C. L. ALLPORT, c/o T. B. Morrish, Esq., Leonard House, Upper Tulse Hill;
Mrs. ASKHAM, Merivale, Cranes Park, Surbiton;
A. AITCHISON, M.A., F.L.S., 25, Wilton Place, London, S.W.;
By Dr. CRESWELL.

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FOR SALE.

Saffron Finches 4/6 each, Zebra Finches 2/- a pair, Java and Barbary Doves 1/6 each, two Silver Pheasant hens (1904) 8/6 each, two cocks 7/6 each (1905). All bred in outdoor aviary.
Lady DUNLEATH, Ballywalter Park, co. Down.

Pair of Blue Rock Thrushes in beautiful winter plumage 40/-, cock Red-vented Bulbul 8/6, Java Sparrows 2/6 per pair; all very healthy, from outdoor aviary. Also a fine acclimatised Corella Parrakeet in lovely plumage, tame, just beginning to talk, 30/-.
Miss MARGARET FEILDING, Broome Park, Betchworth.

One cock and two hen Rosellas 15/- each, Cockatiels 10/- pair or 5/- each; all this year outdoor aviary-bred.
HUME, Hepscott, Morpeth.

JANUARY, 1906.

The Foreign Bird Club.

IMPORTANT NOTICES.

Feeling that the Secretarial duties could be better fulfilled if the responsibilities were undivided, as they were in Mr. Fillmer's time, Mr. Goodchild has resigned his share of the office into my hands. All official communications therefore, which heretofore have been sent to him, will in future be sent to the Editorial Secretary.

Election of Council, etc.: In February the Council and roll of officers will automatically dissolve, and the election of the new body must be completed in time to publish the results in our next issue. Will such *members* therefore, as wish to stand for the various offices, kindly notify me to that effect by Saturday Morning, the 20th inst. at latest, in order that the voting papers may be prepared and posted to the electorate without delay, for the election of 12 members of Council, 6 Judges, a Treasurer, and 2 Secretaries? The Hon. W. B. Wrottesley, who has so efficiently performed the duties of Treasurer, is unfortunately obliged to retire from that office, but seeks election to the Council.

W. Geo. Creswell,
15*th Jan.*, 1906. *Hon. Editorial Secretary.*

NEW MEMBERS ELECTED.

Miss C. L. Allport, c/o T. B. Morrish, Esq., Leonard House, Upper Tulse Hill, London;

Mrs. Askham, Merivale, Cranes Park, Surbiton;

A. Aitchison, M.A., F.L.S., 25, Wilton Place, London, S.W.

PROPOSED FOR ELECTION AS MEMBERS.

Rev. F. ALMOND, Branxholme Villa, Lincoln Road, Peterborough. *By the* Rev. R. E. P. GORRINGE.

Miss HOLLINS, Greyfriars, Preston, Lancashire. *By* Dr. CRESWELL.

PROPOSED FOR ELECTION AS ASSOCIATE.

Miss M. LOCK, 82, Southwold Mansions, Elgin Avenue, Maida Vale, London. *By* Dr. CRESWELL.

THE SHOW SEASON.

MEDALS have been granted to the following Shows, in addition to those already announced:

Cork, Jan. 25th & 26th. Classification for six classes for Foreign Birds. Two Bronze Medals. Judge Mr. J. Robson. Schedules from Mr. M. O'Keefe, 1, Fair View, College Road, Cork.

L. & P. O. S., Crystal Palace. Feb. 9th, 10th, 12th, & 13th. Classification for nine classes for Foreign Birds. One Silver Medal and two Bronze Medals. Judges: Messrs. H. T. T. Camps, Russell Humphrys, and W. Swaysland. Schedules from Mr. H. Lambert Brown, 64, Manor Park, Lee, London, S.E.

The Show Committee wish to call attention to the fact that they have induced the Cork Show authorities to open their Foreign Bird Classes to the United Kingdom. I think this is the first Irish Show that has been open, so I hope some of our exhibiting members will support this Show.

There has been some grumbling in past years at the National Show at Foreign Hybrids being "wrong classed"; this year the L. & P. O. S. are giving a special class for Foreign Hybrids. One of the Bronze Medals is to be won by a member getting most points, who has not previously won a Club Medal.

The L. & P. O. S. have decided that entries close on Jan. 29th, and that there will be absolutely no extension.

S. M. TOWNSEND, *Hon. Exhibitional Secretary,*
3, Swift Street, Fulham, S. W.

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Hon. Secretary by the last day of the month.

Wanted—An acclimatized Red Gouldian cock.
Mrs. PARTRIDGE, 6, Hyde Vale, Greenwich.

Wanted—Pair Ruffed Grouse. State price.
Captain W. F. SMITHWICK, Youghal House, Nenagh.

For Sale or Exchange—Virginian Cardinal, Canary, and Oriental Satinette Pigeon, all cocks, in fine condition, outdoor aviary. *Wanted*—Hudson's Argentine Ornithology, Saffron Finches, and male Grey and Green Singing Finches.
Dr. CRESWELL.

◆

POST-MORTEM EXAMINATIONS.

The conditions upon which these will be made by Dr. CRESWELL, Eden Lodge, Kingston-on-Thames, are as follows:

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(5) The work will be done gratuitously, and a report published in "Bird Notes," but *under no circumstances whatever will a report be sent by post unless a fee of 2/6 accompanies the letter and bird.* Pressure of work compels Dr. Creswell to make this an invariable rule, and it applies to all members whether they are personally acquainted with him or not.

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FEBRUARY, 1906.

The Foreign Bird Club.

IMPORTANT NOTICES.

THE Magazine Committee will be glad to receive photographs for consideration, with a view to the publication of those found most suitable for reproduction.

This year five coloured plates have appeared, being an increase of one over last year. In the coming volume it is intended to publish six, but we must not lose sight of the fact that with our limited membership the expense of these plates at present practically falls upon a few members of the Council and Staff, and that no public appeal for help has been made during the past year.

May I therefore now make a special appeal to our Members and Associates to help us *by inducing their friends to join our ranks*.

Another matter:—At the risk of appearing to worry my friends I would like to remind them that without literary contributions no magazine can be kept up. While many have been good enough to send in MSS., for which I take this opportunity of expressing the thanks of the Committee, I cannot help thinking that there is a good deal of yet unrevealed ability in our midst, material evidence of which I shall be glad to receive.

The results of the Council Election will be seen on reference to the Scrutineer's report. I congratulate our Members on the healthy interest they take in our affairs, as evidenced by their extensive poll of 87 papers.

Attention is directed to the notice on the outside of the cover, and Members are reminded that having to specially write to them for their subscriptions means (avoidable) waste of money in postage, which could be better spent on the Magazine.

W. GEO. CRESWELL,
Hon. Editorial Secretary.

15*th Feb.*, 1906.

NEW MEMBERS ELECTED.

Rev. F. **Almond**, Branxholme Villa, Lincoln Road, Peterborough.

Miss **Hollins**, Greyfriars, Preston, Lancashire.

NEW ASSOCIATE ELECTED.

Miss M. **Lock**, 82, Southwold Mansions, Elgin Avenue,
Maida Vale, London.

PROPOSED FOR ELECTION AS MEMBERS.

Aronstin, Max, 30, Grand Parade, Cork. *By* Dr. **McMath**.

Wilson, Miss F. M., 34, Charrington Street, London, N.W. *By* Dr. **Creswell**.

PROPOSED FOR ELECTION AS ASSOCIATE.

Rudkin, F. H., Belton, Uppingham. *By* Mr. **Goodchild**.

CHANGE OF ADDRESS.

W. **Oakey**, 34, High Street, Leicester.

ELECTION, 1906.

87 Voting papers returned. 806 Qualified Notes recorded.

7 papers disqualified—6 unsigned; 1 by excess of votes.

Council (12).

1. Fillmer, H. R. ..	.. 78	7. Humphrys, R.	.. 53
2. Wrottesley, Hon. W. B.	75	8. Master, Dr. ..	.. 50
3. Camps, H. T. T.	.. 67	9. McDonagh, J. E. R.	.. 43
4. Winchilsea, Countess of	64	10. Little, Miss Rosa	.. 38
5. Clarke, Dr. ..	.. 60	11. Miller, Mrs. Leslie	.. 37
6. Castle-Sloane, C.	.. 59	12. Dart, H... ..	.. 36

(The above are elected).

Page, W. T.	.. 33	Laffan, Mrs. ..	.. 24
Wilson, T. N. ..	.. 32	Perryman, C.W.	.. 23

Secretaries (2).

Creswell, Dr. W. Geo., and Townsend, S. M.

(Elected—no contest).

Treasurer (1).

Horton, L. W. (Elected—no contest).

Judges (6).

Camps, H. T. T.
Fillmer, H. R.
Humphrys, R.
Seth-Smith, D.
Swaysland, W.
Townsend, S. M.

(Elected—no contest).

LITERARY PRIZE COMPETITION.

Hopkinson, Dr. 14; Farrar, Rev. C. D., 12; Perreau, Capt., 3; Swan, J. A., 2; Castle-Sloane, C., 1; Goodchild, H., 1; Townsend, S. M., 1.

Some votes were also given to Dr. Creswell, who, as Editor, did not compete.

J. A. SWAN.

Feb. 5th. 1905. *Scrutineer.*

THE BIRD MARKET.

The charge is one penny for every four words, including address. All advertisements must be pre-paid, and reach the Hon. Secretary by the last day of the month.

Wanted—True pair Blue Robins from outdoor aviary.
PAGE, 6, Rylett Crescent, Shepherd's Bush, W.

Cock Diamond Dove, 10/-; pair Zebra Doves, 12/-; pair English Bullfinches, 10/6; cock Gouldian, 10/-; cock Combassoo, 5/-; pair Mannikins, 6/-; German Canary, 10/-; African Grey Parrot, good talker, £6; pair Waxbills, 6/-; 3 Doves, 1/- each. STOREY, 7, Blenheim Terrace, N.W.

Zebra Finches 2/- a pair, bred 1905. 1906—pair Pekin Robins, hen Blue Robin. Mrs. HENRY BROMET, Tadcaster.

Wanted — Hen Chinese Painted Quail, pair Parrot Finches (*Erythrura psittacea*). Mrs. HENRY BROMET, Tadcaster.

On sale—Young Norwich Canaries in full song. Also two hens. Some ticked, others yellow.
Mrs. ASKHAM, "Merivale," Cranes Park, Surbiton.

For sale—Acclimatized Blue-fronted Amazon Parrot, promising bird, 40/-, and large square cage 7/6. Also a new square Parrot cage, sacrifice for 10/-.
YALLOP, 23, Alexandra Road, Norwich.

Wanted—Acclimatized hen Red Gouldian.
CHAPLIN, Amwell, Ware.

Sale or exchange—Crested Mynah (sex unknown), cock Red-headed Bunting (*Emberiza luteola*) rare, both perfect condition; hen Mocking-bird, rather rough.

Wanted—cocks, Mocking-bird, Rose-breasted Grosbeak, Persian Bulbul, Rock Thrush, Blue Thrush, Brazilian Hangnest, Jennie Wren. Always open to purchase good songsters. Good prices given.
WILL. TRUE, 74, Comeragh Road, London, W.

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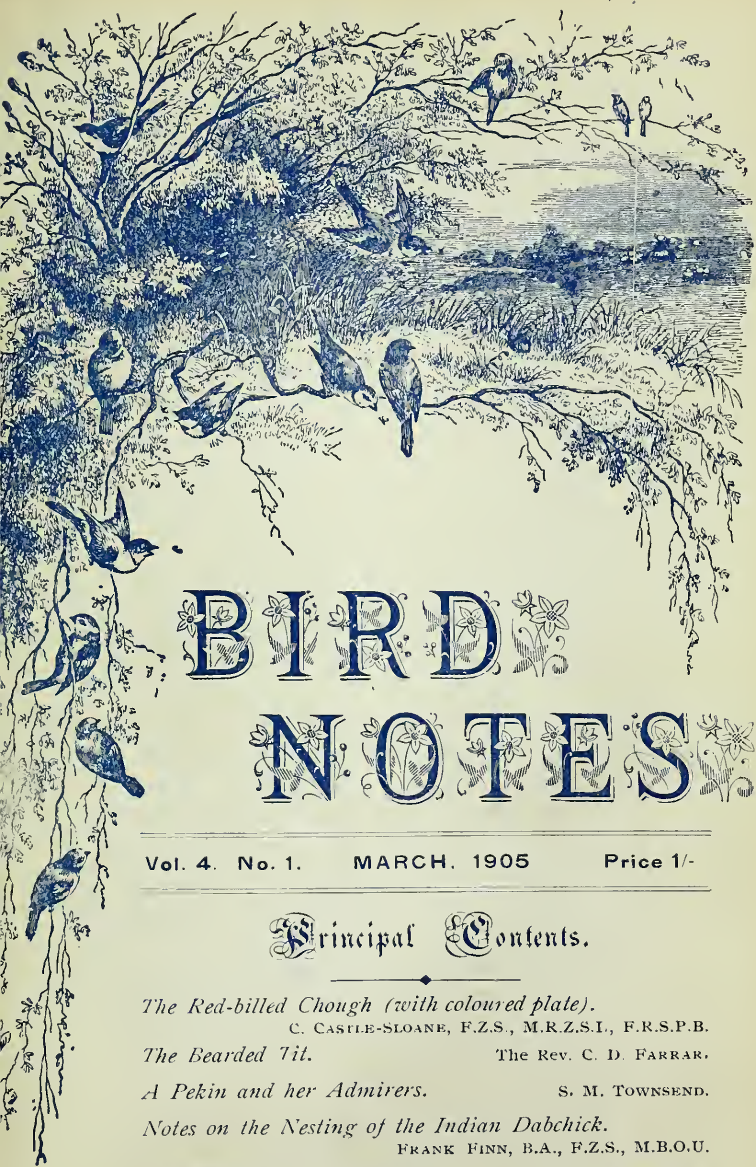

BIRD NOTES

Vol. 4. No. 1. MARCH, 1905 Price 1/-

Principal Contents.

The Red-billed Chough (with coloured plate). C. Castle-Sloane, F.Z.S., M.R.Z.S.I., F.R.S.P.B.

The Bearded Tit. The Rev. C. D. Farrar.

A Pekin and her Admirers. S. M. Townsend.

Notes on the Nesting of the Indian Dabchick. Frank Finn, B.A., F.Z.S., M.B.O.U.

The Misdeeds of the Sparrow. Verbum Sapientibus.

ALL RIGHTS RESERVED.

MEMORANDA FOR MEMBERS.

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All queries as to the treatment of Parrots and Parrakeets should be sent to H. T. T. CAMPS, Linden House, Haddenham, Isle of Ely.

All queries as to the treatment of insectivorous and fruit-eating birds should be sent to RUSSELL HUMPHRYS, Southboro', Bickley, Kent.

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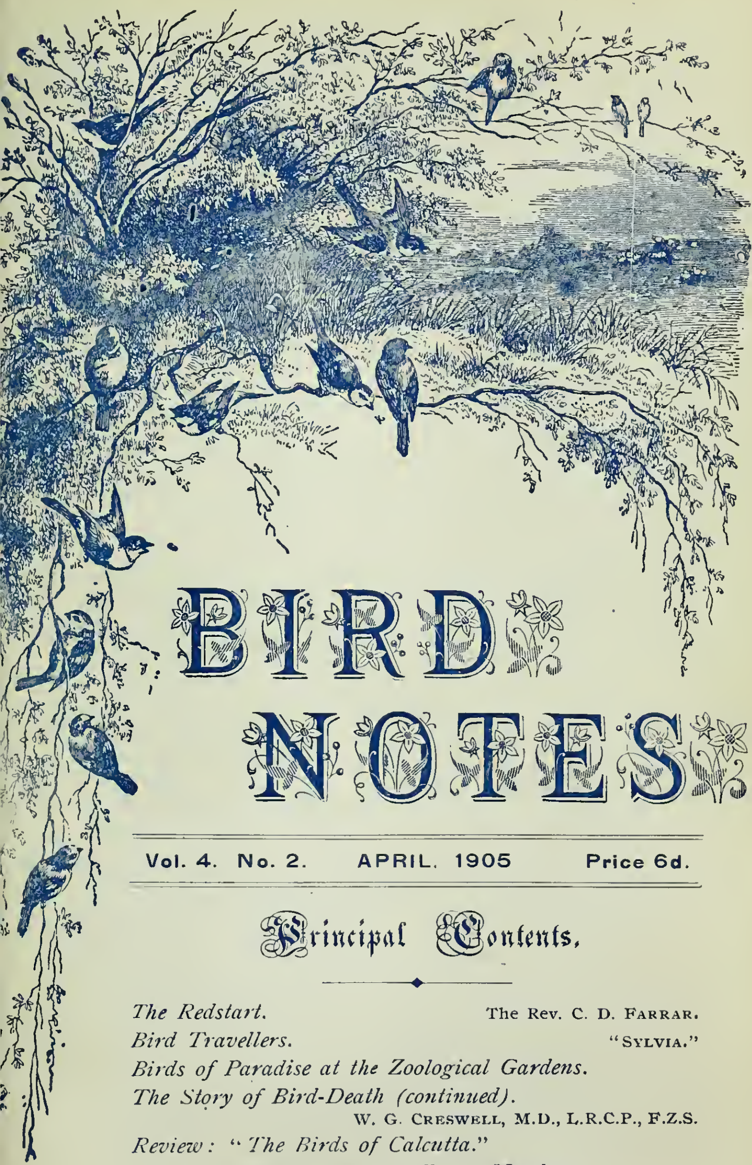

BIRD NOTES

Vol. 4. No. 2. APRIL. 1905 Price 6d.

Principal Contents.

The Redstart. The Rev. C. D. Farrar.
Bird Travellers. "Sylvia."
Birds of Paradise at the Zoological Gardens.
The Story of Bird-Death (continued). W. G. Creswell, M.D., L.R.C.P., F.Z.S.
Review: "The Birds of Calcutta."
The Foreign Bird Club: Officers, Members, Associates, and Rules.

BRIGHTON:
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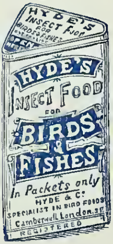
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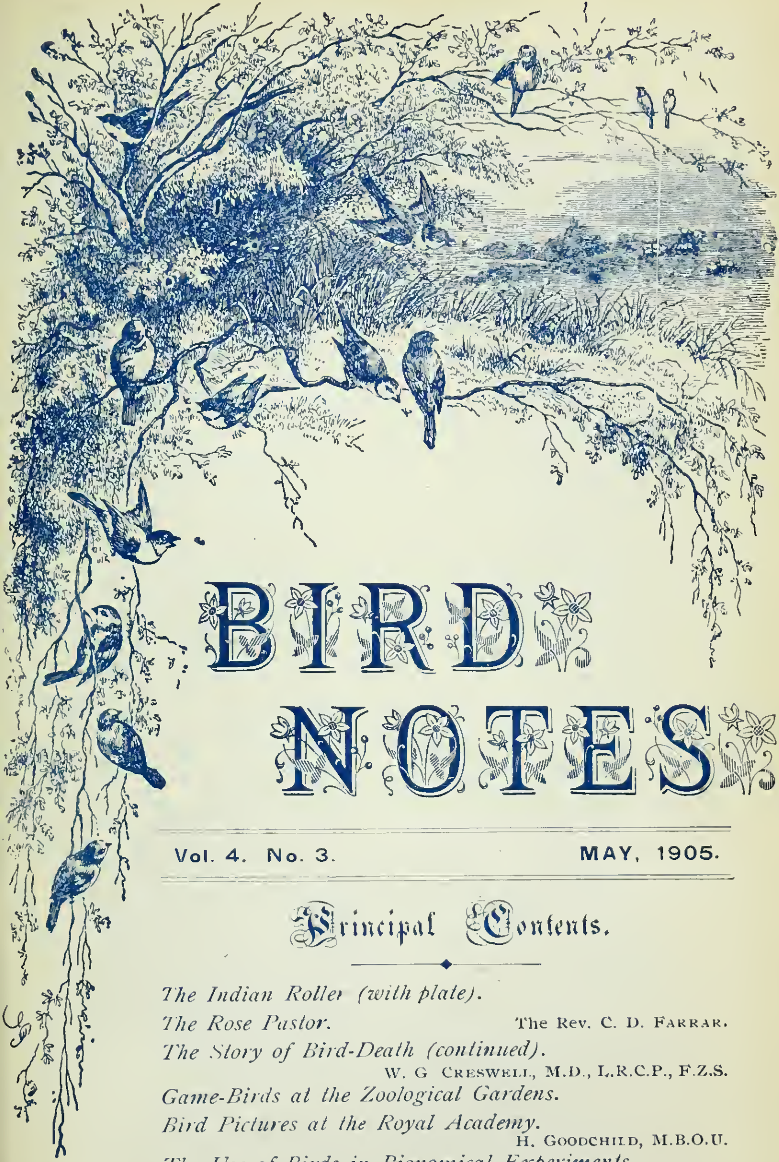

BIRD NOTES

Vol. 4. No. 3. MAY, 1905.

Principal Contents.

The Indian Roller (with plate).
The Rose Pastor. The Rev. C. D. Farrar.
The Story of Bird-Death (continued). W. G Creswell, M.D., L.R.C.P., F.Z.S.
Game-Birds at the Zoological Gardens.
Bird Pictures at the Royal Academy. H. Goodchild, M.B.O.U.
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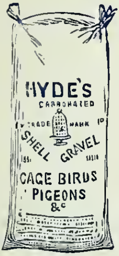
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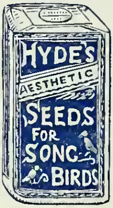
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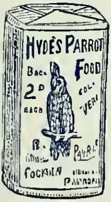
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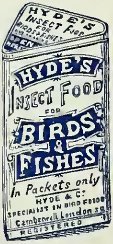
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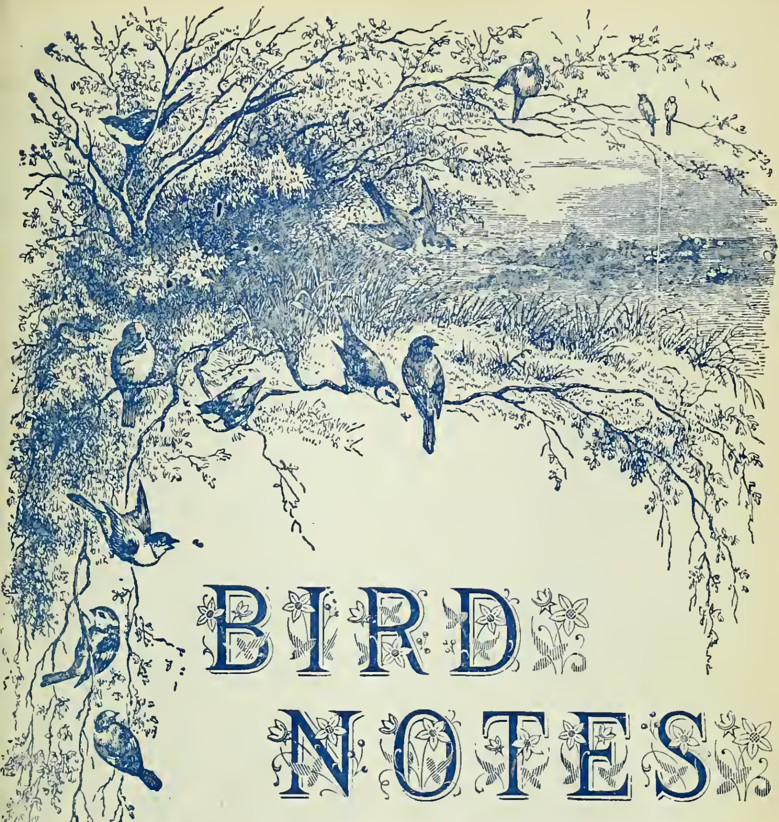

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Vol. 4. No. 4. JUNE, 1905.

Principal Contents.

◆

The Story of Bird-Death (continued), with plate.
W. Geo. Creswell, M.D., F.Z.S.

An Ornithologist in the Deer Forests.
H. Goodchild, M.B.O.U.

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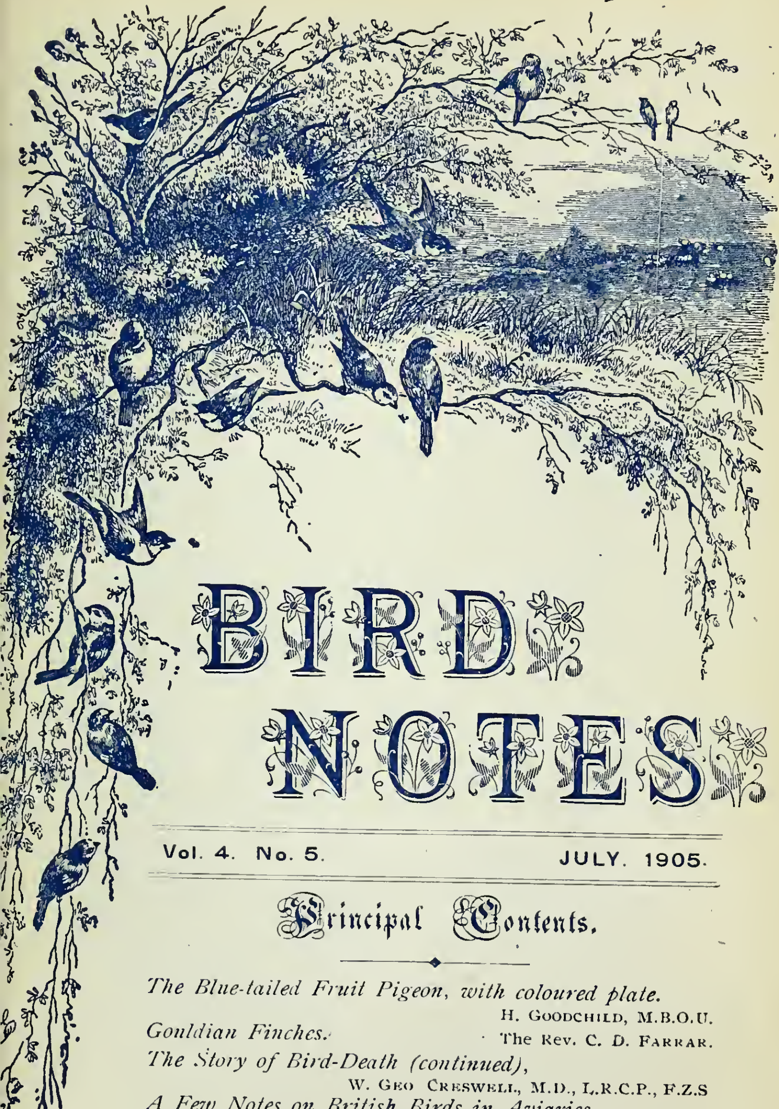

BIRD NOTES

Vol. 4. No. 5. JULY. 1905.

Principal Contents.

The Blue-tailed Fruit Pigeon, with coloured plate. H. GOODCHILD, M.B.O.U.

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The Story of Bird-Death (continued), W. GEO CRESWELL, M.D., L.R.C.P., F.Z.S

A Few Notes on British Birds in Aviaries. SIDNEY H. SNELL, M.D.

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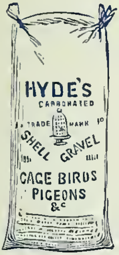
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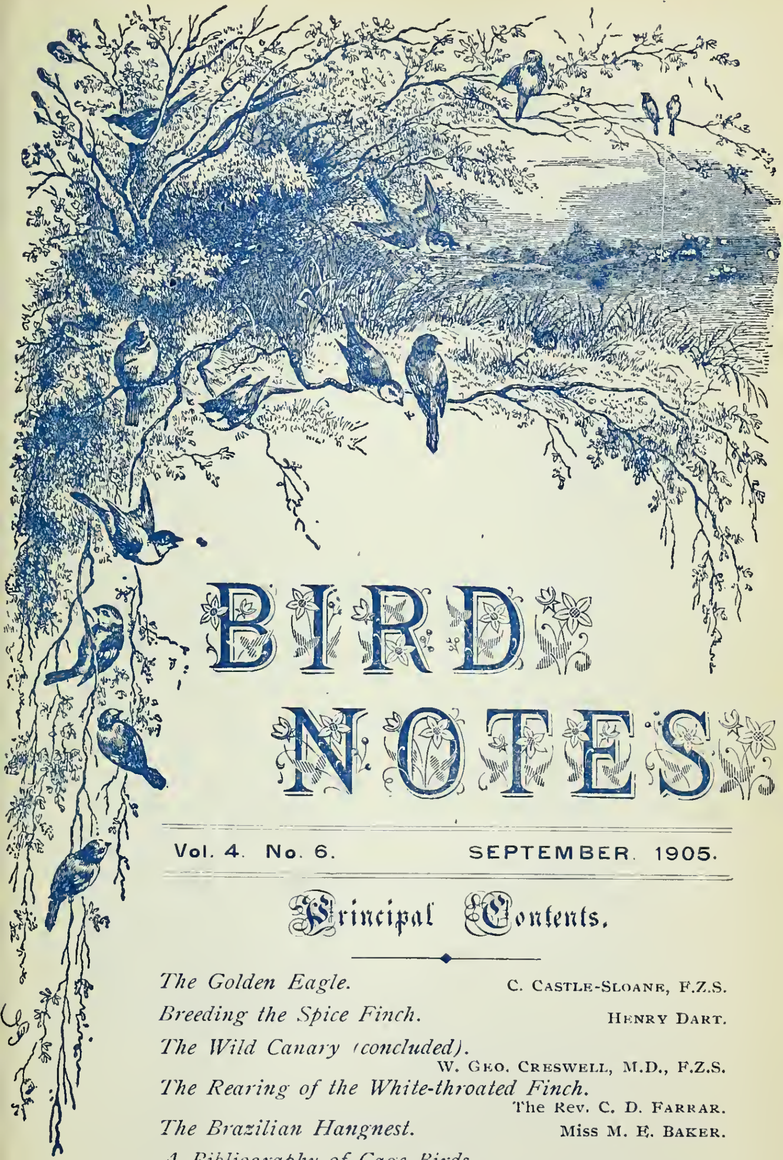

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The Golden Eagle. C. CASTLE-SLOANE, F.Z.S.

Breeding the Spice Finch. HENRY DART.

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The Rearing of the White-throated Finch. The Rev. C. D. FARRAR.

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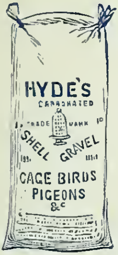
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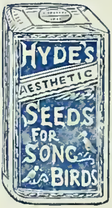
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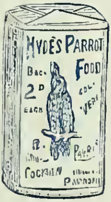
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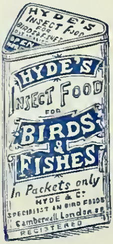
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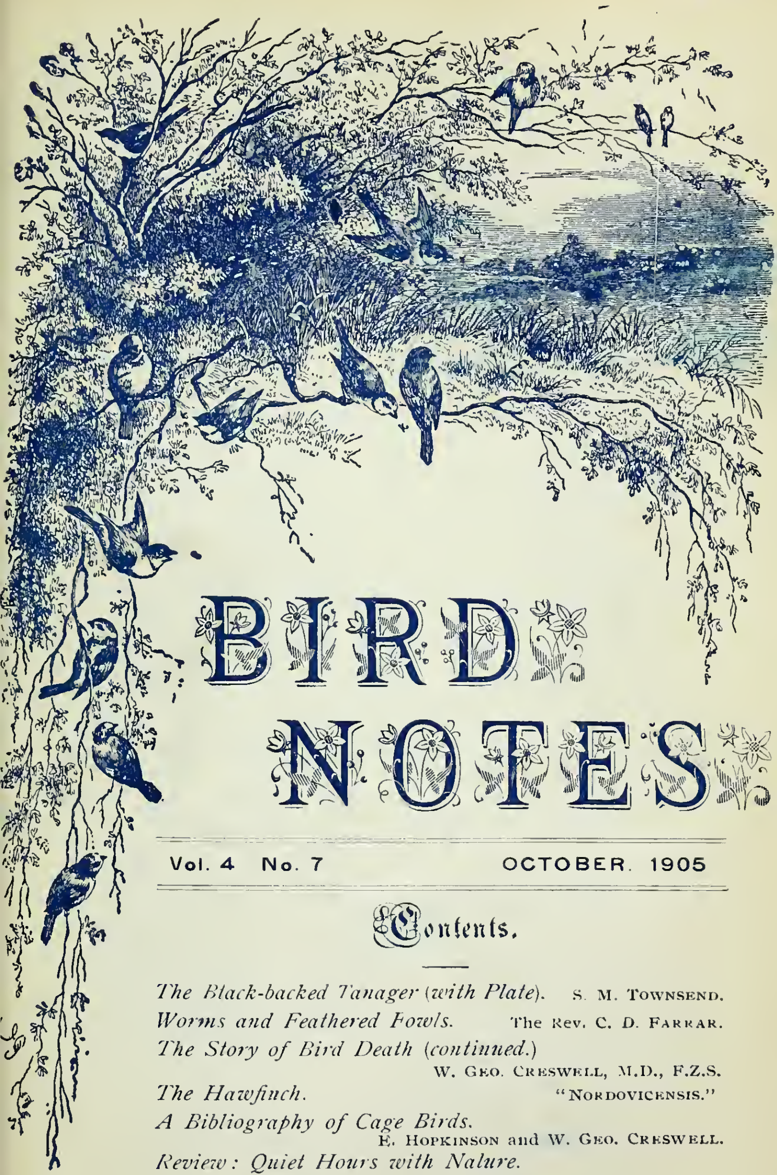

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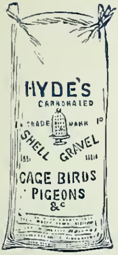
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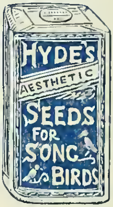
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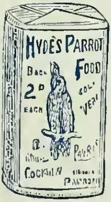
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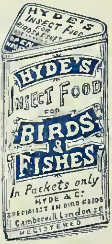
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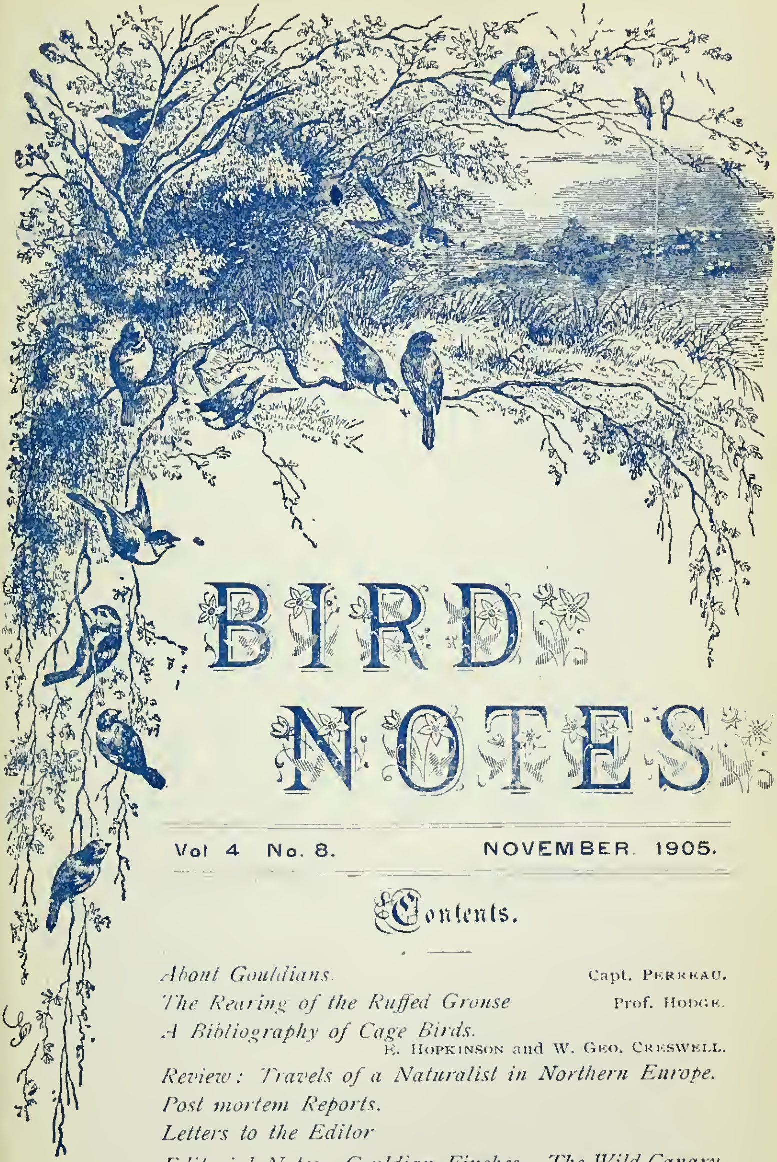

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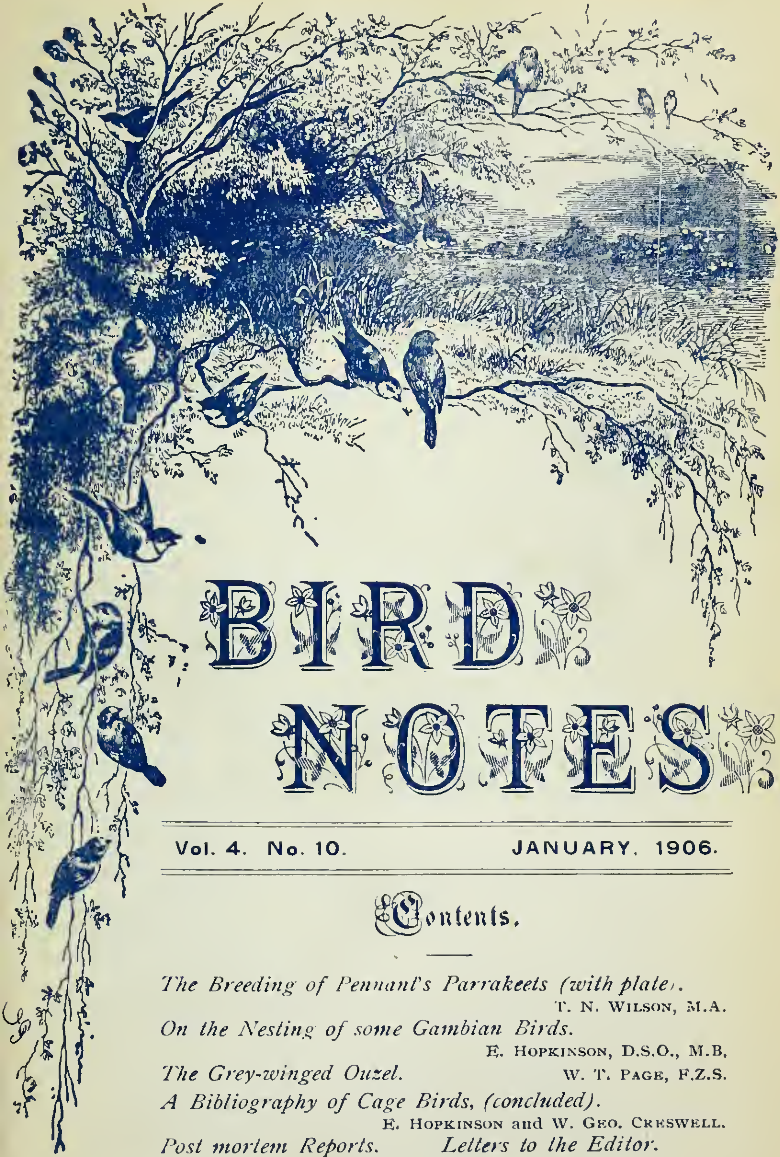

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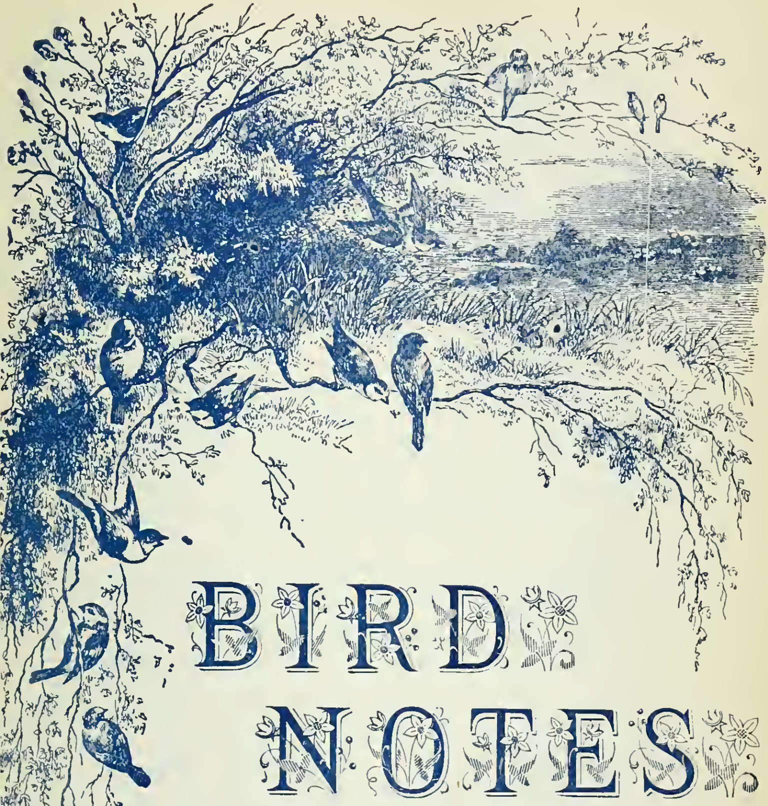

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